UNITED STATES DISTRICT COURT

DISTRICT OF MASSACHUSETTS

UNITED STATES OF AMERICA, et al.

Plaintiffs,

Civil Action No.
1:21-cv-11558-LTS

v.

AMERICAN AIRLINES GROUP, INC., et al.,

Defendants.

BEFORE THE HONORABLE LEO T. SOROKIN, DISTRICT JUDGE

BENCH TRIAL
Day 16

Wednesday, October 26, 2022
8:39 a.m.

John J. Moakley United States Courthouse
Courtroom 13
One Courthouse Way
Boston, Massachusetts

Rachel M. Lopez, CRR
Official Court Reporter
raeufp@gmail.com

A P P E A R A N C E S

On behalf of the Plaintiff United States of America:

United STATES DEPARTMENT OF JUSTICE
BY: WILLIAM H. JONES, III; AND JUSTIN T. HEIPP
450 Fifth Street, Northwest
Suite 8000
Washington, D.C. 20530
(202) 514-0230
bill.jones2@usdoj.gov
justin.heipp@usdoj.gov

On behalf of the Defendant American Airlines Group, Inc.:

LATHAM & WATKINS, LLP
BY: DANIEL M. WALL AND TARA L. TAVERNIA
505 Montgomery Street
Suite 2000
San Francisco, California 04111
(415) 391-0600
dan.wall@lw.com
tara.tavernia@lw.com

On behalf of the Defendant JetBlue Airways Corporation:

SHEARMAN & STERLING LLP
BY: RICHARD F. SCHWED
599 Lexington Avenue
New York, New York 10022
(212) 848-4000
richard.schwed@shearman.com

TABLE OF CONTENTS

TRIAL WITNESSES

EXHIBITS

P R O C E E D I N G S

(In open court at 8:38 a.m.)

THE COURT: Ready to go? Ready?

MR. WALL: We are.

THE COURT: Okay.

MR. WALL: Defendants call Dr. Dennis Carlton.

THE COURT: I just want to note that, according to the official clock, we're 22 extra minutes.

(Witness duly sworn.)

THE DEPUTY CLERK: Thank you. You may be seated.

THE COURT: Go ahead.

DENNIS CARLTON

having been duly sworn, testified as follows:

DIRECT EXAMINATION BY COUNSEL FOR AMERICAN AIRLINES

BY MR. WALL:

Q. Good morning, Dr. Carlton.

A. Good morning.

Q. It might be a good idea to move that microphone a little bit closer to you. Great. Thank you.

Dr. Carlton, where were you born and raised?

A. Boston, Massachusetts.

Q. Okay. Could you please describe your educational and academic background for the Court.

A. Yes. After going to school in Boston, high school, and grammar school, I went to Harvard, where I majored in applied

math and economics. And then I went to MIT, where I got a degree in operations research, which is sort of the application of economics -- of mathematics to business problems, and then I received my PhD from MIT.

After I got my PhD from MIT, I taught at MIT, a course in advanced econometrics and statistics. And then I moved to the University of Chicago, where I've been ever since.

I first was in the economics department and was at the law school, and then I wound up where I currently am, which is the business school. The David McDaniel Keller, professor of economics, emeritus.

Q. And what is your area of expertise, sir?

A. Microeconomics, generally, but specifically industrial organization, which is that branch of economics that specializes in how firms compete amongst each other and is the branch of economics most closely related to antitrust.

My courses that I've taught ranged from econometrics to microeconomics. But most recently I've been teaching in the PhD sequence in the economics and business school in industrial organization; and the course I teach is one that is specialized to topics in antitrust, and we sort of do the latest theoretical and empirical advances in the field.

Q. Could you give us a brief summary of your publications in

academic journals or books?

A. Yeah, I have lots of publications. I have a textbook, *Modern Industrial Organization*, which covers the field. I also have about 150 articles in either books or journals, many of them dealing with antitrust issues and several of them on the airline industry. And, in fact, I have one of the early papers on the importance of the creation of networks and feeder traffic in the airline industry.

Q. Have you served in the government?

A. Yes. In several roles. Probably the most important one is I was the deputy assistant attorney general for antitrust for economic analysis, which is a fancy name for chief economist. There are about 50 PhD economists under my direction. We -- we're involved with all aspects of merger policy, antitrust policy, domestic and foreign.

I've also served on a congressional -- bipartisan congressional commission called the Antitrust Modernization Commission. I was the only economist on the commission. It was hard to get a word in edgewise. And we issued a report in -- it was 2008.

I also have served on ABA transition teams that advise incoming presidents on antitrust policy. I've served as an adviser to the Department of Justice in the Federal Trade Commission. I have advised on merger guidelines in their many iterations over the years, and I also served on a

commission for the Bureau of The Census on the interpretation and use of economics, statistics, and data.

Q. Can you summarize your experience analyzing the competitive effects of various kinds of business transactions.

A. I have lots of experience doing that. I've -- at the Department of Justice I, obviously, did that. But I've also been involved in consulting for a very long time. I was involved with the consulting firm Lexecon almost from its very inception. And over the last 40 years, together with my experience at the Department of Justice, I've worked on, for example, hundreds of merger cases.

Q. And Lexecon, at one point, itself, combined with Compass to perform -- to create Compass Lexecon?

A. Yes, that's correct. As I said, I served for several years as president of Lexecon.

Q. Okay. And have you given testimony in courts or regulatory proceedings on the competitive effects of transactions?

A. I have. Yes.

Q. Can you give us some examples?

A. Most recently, I testified before the FTC on the Illumina-GRAIL transaction. And in federal court a few years ago, I testified on the AT&T-Time Warner merger.

Q. What experience do you have working on transactions or

matters related to the airline industry?

A. I've worked on many matters related to the airline industry. I've worked for many of the airlines. For example, I worked on all of the most recent legacy mergers. I've worked for Southwest. I've worked for many of the domestic airlines, as well as foreign airlines and testified in foreign tribunals.

Q. Have you ever worked in opposition to any airline transactions?

A. Yes. I recall two. There may be more. I was hired by the New Zealand -- I think it's commerce commission, to oppose the Qantas-New Zealand proposed merger. And I also worked on behalf of American when they sued Northwest.

Q. Thank you, Dr. Carlton.

MR. WALL: At this time, I would tender Dr. Carlton as an expert in industrial organization economics.

MR. HEIPP: No objection, Your Honor.

THE COURT: All right. I find him so qualified.

BY MR. WALL:

Q. Dr. Carlton, when were you retained to work on this matter?

A. I think the first time I did work on this matter was in August of 2022, but that was only briefly, and the bulk of my work has been since January of this year.

Q. So did you mean August 2021?

A. Yes. Sorry. August 2021.

Q. Great. Thank you.

And when you were retained, when you were first retained on this matter, what was your charter intended to be?

A. Well, in -- when I started working intensely in January, my understanding was that I would be commenting on the likely effects of this transaction, the competitive effects, and in particular I would be able to respond to the economists that the Department of Justice was going to use. I could respond to their reports.

And I began looking and familiarizing myself with the details of the NEA and also analyzing fares to see whether there was any evidence that the NEA had affected fares, because I figured that would be a topic of investigation.

Q. And how did your charter change, if at all, when plaintiffs submitted their initial expert reports in June?

A. Well, it didn't really change in the senses that I was asked to still opine on the competitiveness of this transaction and the likely effect and respond to the opposing experts, but I was a little surprised that no one analyzed what had happened.

And since I had begun thinking about that, I went forward and analyzed that and have submitted that as a key

part of my report and my analysis. It just seemed like an obvious question to ask: Has there been an effect?

Q. So you're going -- excuse me. You're going to go ahead and present the results of your analysis of fares, even though there wasn't a similar analysis coming from the plaintiffs' side?

A. That's correct. I think it's an important question and I think it's an obvious question. I'm surprised they haven't done that.

Q. So you have prepared a slide that summarizes your opinions in the case, correct?

A. Yes.

Q. We put that up on -- on the board on the screen. Can you take us through that?

A. Sure. I would say I have three main opinions. The first one is that you can evaluate the fare effects of the NEA by comparing fares on routes affected by the NEA which -- think will be affected by the NEA, with a set of what I'll call control routes, where control routes are routes that aren't going to be significantly affected by the NEA, and you can compare the two.

And that -- you know, I understand that plaintiffs have raised questions about COVID and litigation risk. I understand what they're saying, but that does not mean you can't do the analysis that I've done and that it's not

probative.

Q. Okay. And the second point?

A. The second one is that, when you look at the actual data, the average fares on the NEA nonstop routes, which are at the heart of Dr. Miller's findings of overcharges, did not increase significantly, relative to the average fares on a set of NEA control routes.

And my third finding is that Dr. Miller's merger simulation is just not reliable as a prediction of what's going to happen in this industry and that there are really three reasons.

The first is, if you just look at what he's saying, it didn't happen, when you compare his predictions to actual fares. Second, his predictions are inconsistent with the evidence on the recent legacy mergers. And, third, his simulation fails to reflect the workings of the NEA and fails to reflect how the airline industry works.

Q. Very well. Thank you, sir. We'll go through those in order. We'll begin with the feasibility of the analysis of actual fares.

Now, in undertaking your work on that issue, you used something called a "difference-in-difference analysis"; is that right?

A. Yes.

Q. Could you explain for the Court what that is and how it's

used to conduct economic analysis?

A. Sure. It's a standard approach used to analyze the question of, what happened? So if there's -- if there's a merger or there's some sort of intervention, you can say -- a policy intervention, you can say, what happened? And you use a difference-in-difference analysis.

And it's basically pretty simple, common sense. You look at where you think there's an effect. Those are called the "treatments." In this case, it would be the treatment routes, the routes that you think the NEA is going to affect. And you compare them to what's happening on the routes that aren't affected by the competition and -- as a result of the NEA.

And you say, is there a difference between what happened on the treatment routes and what happened on the control routes? It's a standard technique, as a journal editor -- I should have mentioned, I'm a journal editor of *The Journal of Law & Economics*, and I've been an editor for 40 years. And especially recently, it is typical to see this type of approach used to analyze the effects of mergers, laws, you know, you name it.

Q. Have you used that technique, yourself, in analyzing the affects of airline transactions?

A. Yes, I have. I wrote a paper with some others, including Dr. Israel, published in 2019, that analyzed the effect of

the three legacy mergers and asked the question, what happened? What happened on the routes that were most concentrated as a result of -- of the merger.

Q. Okay.

A. I'll talk about that later.

Q. I think we have a slide that is -- we're going to use to talk about the difference-in-differences approach. Let's pull that up. This is actually Table 1 from your report. And can you describe for the Court what you put here and what we're to take from it?

A. Sure. So let's suppose you're analyzing a merger, and you are concerned that there are certain routes where competition will be affected adversely. And before the merger, on what are called the treatment routes, those routes that will possibly be adversely affected, the fare is $200, and the fare goes up from $200 to $206 after the merger, so it goes up by 3 percent.

If you have a set of control routes that have the property that they're unaffected by competition, that the merger doesn't affect competition on those routes, you can look what happened on those control routes. So let's suppose the price was 300 before the merger, and then in the postmerger period it's $330, so a 10 percent increase.

The idea of the control routes is to be controlling for general industry factors, so inflation, higher energy

costs, whatever. And what you can see from the example I have up, the control routes go up by 10 percent, the treatment routes go up by only 3 percent. So, therefore, you would come to the conclusion that the fares fell on the treatment route as a result of the merger, and they did not rise.

Q. Is this a standard approach to evaluate the effects of completed transactions?

A. Yes. As long as you have data, this is a pretty standard approach of how you ask what happened as a result of a merger?

Q. How about in the case of a proposed transaction?

A. Well, if it's a proposed transaction, you don't have the luxury of observing what has happened; and, therefore, you can't do a difference in difference, and you have to do something --

Q. Now, Drs. Miller and Town argued that big shocks like the pandemic make it impossible to do differences-in-differences analysis of the NEA. Is that true?

A. I understand what -- their concern. There's no question that when there are big changes, you have to control for them.

But, you know, my view as an economist is that's what I'm trained to do, and no economic data is perfect. And economic factors are always changing, and that shouldn't

prevent you from looking at the data to see what you can learn from it.

You know, for example, the great recession was a huge financial effect on our economy. You know, economists study routinely what happens during that time period.

In this case, there's no question COVID is an important factor, but the point of choosing a control group is to try and control for what's going on in the rest of the industry. And, therefore, it's important -- and I -- I try to do this, as you'll see later in my testimony -- you want to make sure that your findings don't depend on a particular control group and that if you chose different control groups, you would get much different answers.

So in general, you want to make sure that your results are what an economist call robust, not sensitive to reasonable changes in how you conduct the analysis, and that's what I've done. And based on that, I'm confident that I've been able to isolate the effect of the NEA, at least to date. And I'm able to conclude that the evidence would not support a claim that the NEA has raised fares.

Q. Okay. So let's dive a little deeper into this. Just -- and so we're clear, can you define again exactly what the control group is, what defines a control group?

A. Yes.

I just spilled some water. All right. No charge

for the cleaning.

THE COURT: No charge for the damage either.

THE WITNESS: I'm liable. You're right.

THE COURT: I bet they'll represent you for free. I bet they've never taken a federal Tort Claims Act case before.

MR. WALL: Those are all true things.

THE COURT: Go ahead.

THE WITNESS: Can you repeat the question?

BY MR. WALL:

Q. Do you remember what we were talking about? Okay. Now, I was going to ask you again, just define for us the control group. What's the --

A. The control group has the characteristic that it should not -- in this case, it should not be significantly affected by any change in competition as a result of the NEA.

Q. Okay. Now, the issue here is, obviously, COVID to a large degree, and everyone was affected by COVID. Is that a problem?

A. Well, it's a problem. It's a problem you can deal with. And you deal with it by trying to choose a control group that will also be affected by COVID. So if both the treatment and control are affected by COVID as well as other factors, inflation, you know, energy costs -- but, you know, people are talking about COVID, so I'll talk about COVID.

As long as the control group is adequately reflecting what's going on generally in the industry among -- in the NEA, in the Northeast, that should adequately allow you to isolate, on the treatment routes, what is the effect of the NEA on sort of -- effect in competition? And that's what I try and do.

But, again, I want to emphasize it's useful when you do these analyses to make sure that changes in either the controls or exactly how you carry out the analysis is not going to dramatically change your results. So that is important to do.

Q. Thank you, Dr. Carlton.

So we'll get to exactly what you did in a moment, but first I need to ask you about Dr. Miller's other argument, the litigation risk confounds a difference-in-difference analysis. What is your response to that?

A. Well, I understand what he's saying. He's saying, you know, when you're under scrutiny, maybe you won't behave as you would otherwise behave, and that once this -- you know, if this deal is approved, then watch out. I understand what he's saying, but I don't agree with him for two reasons.

The first is you often talk about the concern in a merger. You know, when I was at the Department of Justice, this was -- is a concern, that if you -- if you allow a

merger to go forward, it's very hard to undo, because in a sense, the eggs get scrambled and it's hard to break up firms.

This is not a merger. This is an agreement between two firms. The two firms will remain separate, as best I understand it, legally. And the concern that I just raised about a merger and unscrambling the eggs just doesn't apply to the same degree.

But, second, this notion that -- and probably more importantly -- this notion that scrutiny will disappear if this is approved and goes forward, it just seems to me wrong for two reasons. First, the data I'm using are publicly available. That's why you have so many studies in the economics literature on airlines. And, second, the methodology that I provide is very simple methodology. And it can easily be implemented, not just by, you know, the very well-trained and excellent economists at the Department of Justice, but also by economists anywhere. My graduate students, you know, professors, they have access to all this literature. This is simple rel- -- in the scheme of things -- to perform this test.

And if there were going to be anything like those large adverse effects that Dr. Miller is talking about, it's going to be obvious. And I just don't see why -- I want you to assume that scrutiny will disappear. It could be

additional scrutiny, not just from the Department of Justice, but from plaintiffs' lawyers all over the country. And if anything is amiss, professors love to write articles using publically available data. So I just don't -- don't see the argument.

Furthermore, Dr. Israel, I know, has already testified that there have already been large capacity changes as a result, as a result of this agreement, and they'd have to undo those.

Well, again, I think the notion that you would not detect the large adverse effects that Dr. Miller is suggesting is just wrong, and that scrutiny is going to disappear is just wrong. I think it there be continual scrutiny.

Q. Thank you, Dr. Carlton.

Let's go on to how you performed your difference-in-difference analysis. First of all, what is the treatment group for your analysis of the NEA, and why did you select it?

A. So the treatment groups I choose are the -- what Dr. Miller call his nonstop overlaps. And I use the nonstop overlaps that he identifies for Boston and the nonstop overlaps that he identifies for New York.

And the reason I focus on the nonstop overlaps is because they comprise over 90 percent of his overcharges. So

I'm focusing on those groups.

Q. And what is the control group for your analysis of the NEA?

A. So based on what I said earlier, the -- what you want for the control group are routes that are -- whose competition is unaffected by the NEA. And Dr. Miller has identified what he calls "mixed overlaps" and "nonstop nonoverlaps" as two groups of markets, which if you -- routes, which if you look at them, it doesn't look like there's much competitive interaction between JetBlue and American Airlines.

And I agree with that; and, therefore, I wouldn't think there would be a big effect. In fact, I think there will be hardly any effect. In fact, his own model predicts that there would be hardly any effect on those two types of routes.

Now, I don't agree with his model, as I'll explain later, but I do agree that I don't expect very large effects on those two types of routes; and, therefore, those are the routes that I use for my controls. And I have separate controls for Boston. I have separate controls for New York.

Q. Okay. Thank you.

Did you consider alternative controls?

A. Well, as I said, it's important to make sure that you -- your findings won't be overturned if you use different control routes. So, yes, I did.

I, for example, impose -- I've described the baseline controls. But then I also said, what happens if I add a requirement that the number of carriers has to be the same pre-NEA and post-NEA? And then I said, what happens if I impose a requirement, the additional requirement that says the number of LCCs has to be the same pre-NEA and post-NEA?

What happens if I impose the requirement that the amount of traffic has to be similar? What happens if I impose a requirement that the distance has to be similar? So those are some of the ways in which I alter the controls.

But I also did other sensitivities. So, for example, when I go through my results, you'll see I used 2019 instead of the pre-NEA period. I also said, what happens if I used 2017 to 2019? Does that change anything?

You'll see that, because of, in part, all the discussion about COVID, I don't use 2022 in my analysis. So I said what happens if I stuck in 2022? Would that change anything?

Q. You said 2022?

A. 2020.

Q. 2020?

A. Yeah. So it was 2020.

I also asked whether the trends on the control routes and the treatment routes were similar pre-NEA. I also -- similar in a way that would alter my -- that would --

with a -- similar or dissimilar in a way that would alter my findings.

And I also analyzed two different equation specifications, and I used two different methods of econometric estimation. One, similar to the one that Dr. Miller uses; it's called "weighted" and then one "unweighted." So I've done a lot of experiments to try and make sure that my results withstand scrutiny and experimentation.

Q. As you know, Dr. Miller has criticized your control groups. Does he offer any alternatives?

A. No. I have see no one offer any alternative control group that, if they used it, would alter my findings.

Q. Would you have expected the plaintiffs to offer alternatives if they made a difference?

A. If they made a difference, that's the only way it seems to me you could undo my results. And my reading of the evidence with all the experiments that I have done is that my conclusions are sound. There is not statistical support for the claim that the NEA has raised fares so far, period, and no one has presented anything to show that I'm wrong.

Q. So let's just cover a couple of other preliminaries and go to your results. You -- you referenced the time period over which you're analyzing fare changes for the treatment and control routes. Could you state those again?

A. Yes. So I used 2019 as the base period, the pre-NEA period. I used -- when I look at what happened post-NEA -- the NEA was established in the first quarter of 2021. So post would be 2021, quarter 2, quarter 3, quarter 4. That's what I use in my report.

Since I wrote my report, quarter 1 data for 2022 has been published, so I used that, too, in the charts that you'll see.

Q. You mentioned that you have grouped Boston routes and New York routes. Why did you do that?

A. Well, when you're choosing a control, you like a control as close as possible to the treatment routes. It just seemed logical if Dr. Miller was talking about treatment routes or harmed routes out of Boston, I'll use controls out of Boston. If he's talking about harms out of New York, I'll use controls that are based on flights out of New York.

Q. Okay. So let's, now, then, turn to your results. We have a summary slide, slide 3. We'll put that up. And before we go through this, could you explain for the Court what you're looking for in the results of your difference-in-difference regressions?

A. Yes. I'm trying to see whether there's statistical support for a claim that the NEA raised fares. And if that were true, what I would expect to see would be a positive and statistically significant effect on fares, and I never see

that, either for Boston or for New York.

Q. Okay. Why don't we then just go through the slide itself, and then the Boston results first. They're by the four quarters you mentioned, right?

A. Yes.

Q. And what aren't you finding with respect to Boston fares?

A. With respect to Boston, as I said -- just as I find in New York -- there's no statistically significant increase in fares. In fact, if you look at what's happening in Boston -- we'll see this a little later -- in the fourth quarter of 2021 and the fourth -- the first quarter of 2022, it looks like, when I used the weighted regression method, which is the one that Dr. Miller uses, if anything, fares in Boston are lower by a statistically significant amount -- 17 percent in 2021 in quarter 4 and 20 percent in quarter 1 2022, so just no support for any possible claim that the evidence shows support for the proposition that the NEA raised fares in Boston.

Q. And now, with respect to the JFK/LaGuardia routes, what are those findings?

A. Very similar. As I said, there is no positive statistically significant coefficient. There's no statistically significant increase that you can detect from the fares on -- or into New York.

Q. To throw a layman's term into this, do these results

prove a negative, or how does one interpret them?

A. Well, technically, when something's statistically insignificant, from zero, what it means is that you can't reject the hypothesis that there's nothing going on.

In layman's terms, more practical terms, I would say that it would be wrong to say that there's statistical support for the proposition that the NEA increased fares. So that's -- the first one is kind of the technical version. The second one is the practical version. You just can't look at this data and say, ah, it's clearly supporting the hypothesis that the NEA raised fares.

Q. Okay. Let's just look very briefly at the actual regression results beginning first with Boston. At this point in the trial, the Court has seen quite a few regressions. But can you just very quickly highlight what on this exhibit indicates the results for Boston nonstop overlaps?

A. Yeah. There are a lot of numbers on this chart, so let me just look at column 1 to keep it simple. That's using this technique called "weighted regression." That's the one Dr. Miller uses, and let's just go down one by one. The minus .066 says that in 2021 on the treat- -- quarter 2 -- on the treatment routes, it looks like fares go down by about 6 percent, but it's not statistically significant.

In quarter 3, it goes down, looks like, by

7 percent compared to the controls; but again, it's not statistically significant. So unless something has a star -- one, two, or three stars, with two and three being better than one star -- it wouldn't be statistically significant.

If you go down to the 2021 quarter 4, it says that, in that quarter, fares are lower by about 17 percent. That is statistically significant. And in the first quarter of 2022, which is the last quarter I have data for, it looks like fares have gone down by about 20 percent, and that is statistically significant.

You know, the other columns are interpreted in a similar way. I would say the main message is you don't see a positive number that's statistically significant. So that's why I keep saying that it would be wrong to claim that you have strong statistical support for the proposition that the NEA raised fares. It's just not there.

Q. Okay. Then moving on, then, to New York and the regressions for New York just briefly. What do we take away from this one?

A. You interpret the numbers in New York in the same way as the previous chart. Again, there is no number on this chart for those quarter dummies -- 1, 2, 3, and 4 -- that's positive and statistically significant. So it's the same conclusion.

Q. Now, you mentioned earlier that your conclusions are

unchanged if you use the data from the first quarter from 2022 as from what you had in your original report. What's the significance of the later data?

A. Yes. So I know a criticism of what I've done is COVID, and I've tried to explain how I've attempted to control for that.

But one thing that does seem evident is that the effects of COVID on the airline industry are diminishing; and therefore, even if you can dismiss the earlier results of mine, if you look at the last, the later results in 2022, quarter 1, when the effect of -- when the airline industry has recovered somewhat from COVID, it would be possible for the plaintiffs to say, "Aha, that's what you should look at, Carlton, because the other stuff is junk. But now that we're recovering from COVID, that's now when normal factors are coming into play. And the fact is we're worried about the competitive factors."

And I'm saying you don't find that at all in the numbers. In fact, I showed you, for Boston, you get the reverse result. It goes down when you use that weighted regression technique.

But in any case, its doesn't become a positive statistically significant number when you look at the -- my results. So I do think that's probative and further confirmation that I am -- what I'm finding is not an

artifact, it's not a fluke, and that it really is the case that the NEA to date has had no -- no adverse effect on fares.

Q. Thank you, Dr. Carlton.

We're going to turn now to the third topic from your summary of conclusions regarding Dr. Miller's merger simulation.

MR. WALL: Maybe we can put that slide back up for just a moment.

BY MR. WALL:

Q. So we'll be covering the three topics in the bullets there about comparison -- predicted to actual fares, recent legacy mergers, and then the degree to which the model reflects the actual workings of the NEA.

So the first sub-bullet, you say here that Dr. Miller's predicted fare increases are inconsistent with the straightforward comparison of predicted to actual fares. What do you mean by that?

A. Well, what I mean is -- and I know he's testified, but it's also clear in his reports Dr. Miller is predicting fare increases as a result of the NEA and, in particular, in the case of Boston, large fare increases. And I'm going to compare what he predicts to what actually happens.

Now, I should say -- you can probably guess the answer. He's predicting large -- oops --

THE COURT: I'm not sure I have to guess. I know what he said, and I know what you've said.

THE WITNESS: Yes. So, I mean, it's an obvious inference. It's really just a different way of showing how off his results are. I say the evidence shows the NEA didn't increase fares, and he's predicting huge fare increases. And what I'm now going to do is compare his predictions to what actually happened, and I'm going to show that he's wrong.

BY MR. WALL:

Q. Okay. And this relates to this idea of prediction error, right?

A. Yes.

Q. And what does "prediction error" mean?

A. Well, if he predicts that fares are going to go up by 30 percent and instead they go down by 10 percent, I would say you made a big error. You're off by 40 percent.

Q. So it's the difference between the predicted and the actual?

A. Yes.

Q. Okay. So how did you analyze whether Dr. Miller's predictions were or were not consistent with the empirical evidence on fare changes?

A. I looked at his predictions, and I have them by quarter on a slide. And I look at what actually happened, and I contrast the two --

Q. Okay.

A. -- and do it on a route-by-route basis.

Q. Yes. Sorry to interrupt.

We're going to put up now Tables 6 and 7. First we'll start with Table 6 from your report.

MR. WALL: Your Honor, there are -- there are -- had been an objection to the admission of these updated tables, which are Exhibits 1081, 1082. But there's been an agreement with the government that the objection will be withdrawn, concurrent with the expert's testimony about the exhibits.

So I would move the admission of DX-1081 and 1082 at this time.

THE COURT: Is that correct?

MR. HEIPP: No objection, Your Honor.

THE COURT: All right. Admitted.

(Defendants' Exhibit No. DX-1081 and DX-1082 admitted into evidence.)

BY MR. WALL:

Q. So the first one is Boston. And this is, as I said, a revised version, an updated version of Table 6 from your report.

Can you describe, first of all, what you're depicting here and how this was put together?

A. Yes. These are on a route-by-route basis for the routes

where he says there are going to be overcharges. For each quarter, I look at what Dr. Miller is predicting the increase in price in fare will be, and then I'm comparing that -- comparing that to the actual, based on the actual data. And so I can go through an example.

If you look at the first row, you see that he predicts that for quarter 4, the fares on Boston-DCA should go up by 54.7 percent. In fact, they go down in the fourth quarter of 2021 by 22.2 percent. So he's saying there should be plus 54; and, in fact, they're minus 22. So he's off by 77 percent.

Q. Just a point of clarification on this. The fare data, the actual fare data to which you are comparing the predictions, that has nothing to do with the difference-in-difference treatment and control groups, right?

A. That's correct. This is just what has actually happened.

Q. Okay. And then when we look at the big picture, there's a row at the bottom. It says "weighted average."

MR. WALL: You can highlight that.

BY MR. WALL:

Q. And then there's some values to the right. Can you explain what those are and how we interpret them?

A. Yes. So that row is simply the weighted average of the numbers above it. And so, for example, if you go to the very last column, since it's the -- easy to look at, under Q1, you

see a minus 12.6. That means that fares in quarter 1 2022 are 12.6 percent lower than they were in 2019.

So, you know, if you look at across those four numbers, you can see, although there's one positive there, they generally are negative. So fares are generally falling in 2022, are lower in 2022 compared to 2019 for Boston.

Q. Okay. And then why don't we just look very quickly now at your updated Table 7, which is the New York one.

A. Well, could we go back --

Q. Sure.

A. -- to the previous table? Because I want to make one other point.

If you look at Boston-Charlotte, you'll see in quarter 1, Dr. Miller predicts 98 percent, and the actual in 2022 in quarter 1 is 17½ percent. So, again, he's way, way, way off.

Q. 17½ negative?

A. Negative 17½. So he's way, way off.

If you want to see, in general, how is he doing in Boston, again, look at the last --

THE COURT: I'm sorry; that's 98 percent he predicted for quarter 1, 2019?

THE WITNESS: He said, as a result of the NEA, the fares will go up in quarter 1 above what they are in 2019.

THE COURT: I see. So he's predicting in 2022,

quarter 1 would be 98 percent above the 2019; and you're saying, in fact, it was 17½ percent.

THE WITNESS: That's correct. Now, in fairness to Dr. Miller, he doesn't exactly say when his predictions are for. It's just if the merger takes -- he calls it a merger -- I mean, uses a merger simulation -- as soon as it occurs, that is when fares go up.

THE COURT: Right. Okay.

THE WITNESS: And then what I was going to say is, if you look at the last two lines, I'm trying to summarize everything that's going on. If you looked at quarter -- the next to last line where it says "weighted average," you'll see the number 29.5. That is his average predicted increase as a result of the NEA raising fares.

BY MR. WALL:

Q. On the Boston --

A. On Boston nonstops.

Q. And just for a technical point here, what's the weighted by?

A. Passengers. It's just a weighted average.

And, in fact, what happens in quarter 1 is not that they go up by 29½ percent; they go down by 12.6. So the prediction error is 29.5 plus 12.6, and that's how you get the 42.1. So that's --

Q. So that's a 42.1 percent weighted prediction error?

A. Yes.

Q. Okay.

A. Yes. And you can see that -- I won't go through the others on the bottom, but you can see that, no matter which quarter you choose, he has pretty large prediction errors.

Q. Okay. All right. So let's just, again, briefly look at the ones for New York, and so I'll bring up Table 7. And, obviously, the -- since it's the same, you don't have to set as much foundation, but can you just walk us through what you think are the highlights from this table?

A. Sure. So, again, if you look at the last two lines, you can see that the highlighted part is just telling us that the actuals in New York are generally falling, fares are lower in the post-NEA period than they are in 2019.

But if you look at the very last line, which is his prediction errors, you can again see that they're large. They're not as bad as they are for Boston, but for New York, they -- they are a little better, but they're still pretty bad.

Q. And so what is -- what are these --

A. They range from 6.4 percent to 21.2 percent.

Q. And so what does this tell us about the reliability of the predictions that Dr. Miller is making?

A. He's just overpredicting. But, you know, from what I said at the out- -- a little earlier, it's kind of obvious.

I'm finding no effect on the NEA, and he's predicting a big effect. And since I'm using actual numbers, it must mean he's making large prediction errors, and that's exactly what this is showing.

Q. So I think that our -- our colleagues on the other side are likely to say that this -- this could be explained by just COVID issues and fares not returning to pre-COVID levels. Have you taken that into account?

A. Yes. And, you know, I think that's a reasonable question to ask. And the way to take it into account is to do just what I did when I did my regression analysis, my difference-in-difference analysis. You look at a control group and you say, what happened there?

And what would be good for Dr. Miller is if he makes an error of, let's say, 20 percent -- I'm finding -- let's suppose I'm finding 20 percent, but I also found he made an error of 20 percent on the control routes. He would say, See, Dennis. It's -- there's no difference between my treatment and controls in terms of my prediction error. It's all due to COVID. That's what the controls -- or other factors, whatever the controls are controlling for.

But I do that analysis. And his prediction errors for the treatment routes -- that is, the ones he claims are going to be harmed -- are always higher than his prediction errors for the control routes. So the answer, that possible

answer to justify what he's doing, is just not right.

Q. Okay.

A. And, again, you could have guessed that based on what I did earlier.

Q. In the difference in difference --

A. The difference in difference.

Q. Okay. All right. So this was about average fares. Have you also evaluated what Dr. Miller's model predicts about individual carrier fares?

A. Yes.

MR. WALL: I think we want to go back to slide 9. Is that still the one that's up? Yes, it is. Okay.

No. For the Boston one. Sorry.

There we go.

THE WITNESS: Yeah, that's it.

BY MR. WALL:

Q. So what is -- what is slide 9, and how did you create it?

A. Slide 9 is, again, just based on Dr. Miller's simulation, but you can actually list out what he's predicting for each of the carriers, so AA is obviously American, B6 is JetBlue. DL is Delta, and UA is United.

And what you -- there are a few things here that, you know, I'd like to -- I'd like to highlight, if you look at some of the individual routes.

Q. Before you do that, I just want to be sure everybody

understands what's going on here. So let's take where the -- the part that says "simulation AA." Those values that say pre-NEA fare and post-NEA fare, what are they and where do they come from?

A. Those come from the data.

Q. From the backup report?

A. From the backup report, yeah, from the backup to Miller's report.

Q. So that's the actual fare that he's saying that American will charge?

A. Yes.

Q. Okay. I'm sorry. Go ahead.

A. Charged. Pre-NEA is charged. Post-NEA is what he's predicting.

Q. Okay.

A. And what you can notice, if you look closely, is some peculiar patterns in the data. So I can illustrate. I can illustrate those.

Q. Let's highlight the row that's Boston-Charlotte. And what do you observe here, and why do you say it's peculiar?

A. Well, B6, JetBlue, has a reputation as a low-cost airline. And pre-NEA, if you look at these fares, then what you find is, on all of these 11 Boston routes, JetBlue is charging either the lowest or one of the lowest fares. And that makes sense.

But if you then go on and ask what happens post-NEA, that turns out no longer to be true. And it turns out that JetBlue -- I think it's eight of the 11 of these routes -- has the characteristic that JetBlue now is charging a fare substantially higher than a legacy carrier. And that's just peculiar.

So let me illustrate with Boston-Charlotte. Pre- -- Boston-Charlotte. No --

MR. WALL: Same one you had up.

THE WITNESS: Same one you had up.

Pre-NEA, you can see that the fare ordering is that, at the low end, there is United at 300 and JetBlue at 308; and that, then, going up to American at 359; with the highest, Delta at 380.

But now let's look at what happens in a sim- -- when he simulates the effect of the NEA. Look at the red boxes. JetBlue now has the highest fare, 781, followed by American Airlines at 625; and then Delta is way down at 387 and United at 304.

The Delta fare -- the JetBlue fare is twice, more than twice the Delta fare. And that just strikes me as really strange. JetBlue is the low-cost carrier, and it's charging on this route higher than any other legacy carrier.

BY MR. WALL:

Q. Well, is there anything about Dr. Miller's model and his

predictions that takes into account the possibility of a carrier like Delta expanding its service in reaction to that $781 JetBlue fare or that $625 American fare?

A. Well, you'd like to think so, but, you know, it's best illustrated if you look at the Boston-DCA route. So maybe you can highlight that.

So let's look at what happens in Boston-DCA. The prediction is that American Airlines is going to really raise its fare a lot. It's going to be, post-NEA, 553. JetBlue is going to be 465. It also has raised its fare a lot.

Delta hasn't raised its fare nearly as much. It's down at 306. So here we have Boston to DCA. We have JetBlue at 465 and American at 553, and we have Delta way down there at 306. Wow, that seems like a tremendous opportunity for Delta to expand, people to get on Delta's aircraft. Delta, last I looked, which was yesterday, had eight small jets going between Boston and DCA. It could easily, you know, I assume, put on a larger jet if it wanted.

And this type of pattern in the fares just doesn't make a lot of sense to me. And I don't think it could possibly be a stable equilibrium, yet, you know, that's what he's predicting.

Q. All right. Thank you, Dr. Carlton.

On this chart, we see columns that are labeled "marginal cost." And I want to talk about that subject a

little bit, and in particular, the issue of negative marginal costs and what they mean for Dr. Miller's model. Can you explain that issue?

A. Yes. When you run these simulation models like Dr. Miller's, what comes out of the model is an estimate of marginal costs. And if you look at his estimates of marginal cost, sometimes they are peculiar in a large number of cases. For example, he finds marginal costs are negative in a fair number of instances.

Well, what's a negative marginal cost? You know, let me give you an example. Suppose the marginal costs were negative 100. That means when a pay -- a flying passenger pays, say, a $200 fare, if marginal cost is negative 100, the airline is making $300. And, you know, you've got to scratch your head. How can marginal cost be negative? That's really strange. Sounds strange.

And when I see that in merger simulation models, you scratch your head and you say, that might tell me that there's something really screwy going on in the model, and that might mean -- and we'll see in a minute that it does mean -- that you're going to get some really strange price predictions.

It also means that there's probably something wrong with the model.

Q. How widespread is this issue of negative marginal costs

in Dr. Miller's model?

A. Well, if you just look at what I have here on Boston nonstops, which is where he gets a lot of his overcharge estimates, if you just look at the first column for American Airlines, you see that in -- one, two, three -- four cases, it's negative. You see a negative marginal cost. And for B6, I think there are four instances in which it's either negative or zero.

So you just worry that there's something peculiar in the model and that the model is not a good reflection of what's going on in the airline industry.

Q. What does the negative implied marginal costs mean for the rest of the imputed marginal costs that happen to be positive?

A. Well, I -- I take it as a more general critique of the model that if parts of the model are telling you something that you find extremely odd, then, to me, it throws into question the entire model. And since these negative marginal costs are going to be affecting your price predictions, as I'll show in a minute, in a peculiar way, you have to say, oh, gee, this is really whacky. I wonder if the whole model is credible?

And I think, together with the, what I consider implausible, fare predictions that he's making, I think my observations on this model is that it's not reliable.

Q. So in his testimony, Dr. Miller suggests that ancillary fees and what he calls other indirect profit opportunities can explain that negative marginal cost. Do you agree with that?

A. I -- I don't. Because in his testimony, he estimated for JetBlue that those ancillary fees were $30, about, on average.

Q. Per passenger?

A. Per passenger. And if you look at the overall model, he has plenty of negatives -- I think it was, like, 13, 14 percent of the JetBlue marginal costs were negative. And 10 percent of them were more than the $30.

But, you know, if you just look here at the American column, I believe there's been testimony that ancillary fees for American are about 10 to 12 percent. But you can see -- just look at the second line -- we have the Boston-Charlotte of minus 111 for marginal costs. The fare is, you know -- you know, 359 pre-NEA. If ancillaries are, you know, even 10, 12 percent, it's still going to be a negative number.

So I just don't find his justification for negative numbers convincing at all. And, you know, maybe I can go through this Boston-Charlotte example.

Q. Yeah, I want to ask you a question. Since we have this up, I'd like you to -- maybe we can use this to explain to

the Court how in the logic of Dr. Miller's model, the negative marginal costs impact the estimated fare increases.

A. Yes. So that's the problem with these negative marginal costs. So I told you your profit is not just the fare, but it's the fare plus, you know, the 111. So for American, they're making a lot of money on this Boston-Charlotte route, you know, 625 plus 111.

So what's going on? Well, here's the logic.

Q. You're saying they're making that in the model. The model is assuming they're charging 625 and they have negative 111 marginal costs.

A. Yes. So revenue minus -- minus 111 is 625 plus 111. So you're making a lot of money. So what is that doing in a simulation model? Well, the simulation model is saying, wow, American is going to make a ton of money on this route. You know what I want to do? I want to jack up the post-NEA fare on JetBlue. Why? Because that will force people to get on the American flight.

That's why the JetBlue fare goes up. It goes through the roof. It goes up to $781. It's the highest fare among the legacies. That is occurring precisely because there's -- negative marginal cost on American is making it look like American is making lots of money; and, therefore, JetBlue wants to drive its passengers on to American.

So that's why you get this very peculiar pricing

pattern; and that's why, when I see these negative marginal costs, it make my nervous.

THE COURT: Let me ask you one question. So if I look at this, so the total profit, as you put it, for American under the simulation would be 736 --

THE WITNESS: Correct.

THE COURT: -- right? And for JetBlue, the total profit would be pretty close to 7 -- it would be 781 minus 47, which would be 6 something, very close to the same number.

THE WITNESS: Yes. So what you --

THE COURT: It's just driving them to have the same price?

THE WITNESS: Yes. So the first order -- the optimization condition, if you have two products, is you want to sort of -- at the -- if you were the only two, you know --

THE COURT: Players.

THE WITNESS: -- product players in town, then -- and you owned both of them, you want to make sure you don't care if a passenger goes on this one or that one. And at the margin, they would be equal. And that's exactly what one of the derivatives in the model -- the first derivatives would show.

THE COURT: And that's your point, that then Delta wouldn't really be charging 387, because they would get

everybody on the market?

THE WITNESS: Well, Delta would say, "Wow, the fare is 781 or 625. Why don't I expand? I could really make a lot of money. And there's a lot of margin that I could still earn even if I stay way under these prices."

THE COURT: Right.

THE WITNESS: That's right.

THE COURT: Okay.

BY MR. WALL:

Q. Just in general, is this scenario that is implied by the Boston-Charlotte data here a plausible outcome of the NEA?

A. I don't think so. JetBlue is a low-cost carrier. The notion that it's going to be the highest price on Boston-Charlotte -- you know, and double the price of Delta -- it just doesn't strike me as credible.

Q. All right. Thank you, Dr. Carlton.

I want to move to a second sub-bullet from your summary slide of Part 3. This is Dr. Miller's predictions are inconsistent with the evidence on recent legacy mergers. And just start us off, can you remind us what a merger retrospective study is?

A. Yes. A merger retrospective, these legacy mergers, is asking what happened after you saw these three large legacy mergers.

Q. And how are they used? For what purposes do economists

do these?

A. Well, they're used for a variety of reasons. One is, it's a policy question. Is merger policy too lax or too stringent? And you want to see what happens after mergers.

But even if you're not interested in policy, it gives you insights as to how an industry is operating, what other competitive forces in the industry -- a merger shakes up those competitive forces. A merger creates efficiencies. How does that work out? So it gives you information about that.

Q. Now, you mentioned earlier that, along with coauthors, you analyzed in a published article the competitive effects of three past legacy airline mergers: The Delta-Northwest, United-Continental, and American-US Airways mergers. What were your conclusions about the effects of those mergers?

A. Well, first, I focus on -- in each of them, on the most concentrated routes -- the two-to-ones, the three-to-twos, the four-to-threes, those places where you most effect an adverse versus horizontal effect because -- by horizontal, I mean, you're restricting the number of competitors on a route.

And the real question in these mergers is -- all right. That sounds bad to restrict the number of competitors on a route that a merger is going to eliminate one of them. Is that effect going to predominant, or are there

efficiencies from the mergers? And what kind of efficiencies do I think are key?

When you have these mergers, you create a network. And the network provides feeder traffic to various, say, hubs if you have a hub-and-spoke system. And it allows the feeder traffic, the network effects, to create all sorts of new connections and greater traffic.

And the question is, what's going to win out? The horizontal effect where you diminish competition, or the -- what I'll call vertical effect in which you push more and more passengers through your network and want to lower the price and expand capacity. Which is going to work out?

And what we found for all three, if you look at them together, is that the procompetitive features worked out; that is, fares generally are going down. Passengers are going up. Capacity is going up relative to controls.

If you look individually -- and I'll just talk about American-US, since that's probably most relevant -- that conclusion is confirmed. As a result of that merger on these highly concentrated routes, you saw fares went down, output expanded, capacity expanded.

So I take from that that these vertical effects, these efficiency effects, really were the predominant force, didn't have to work out that way, but that's the way it worked out.

Q. So just to put a pi1n on it, with respect to these nonstop overlap routes that you studied in the American-US Airways merger, what was your conclusion?

A. My conclusion was that, on those routes, fares went down, passenger output went up, capacity went up. They were procompetitive outcomes. And those were the routes where you must expected, especially based on what the government was saying, harm.

Q. Dr. Carlton, have you previously presented the conclusions from that merger retrospective in testimony in federal court?

A. Yes, I have. In a bankruptcy court in which the AA-US merger was being challenged.

Q. In a private challenge?

A. Yes.

Q. And what was the outcome of that case?

A. American Airlines prevailed.

Q. Is your testimony here based on that same retrospective?

A. Yes.

Q. Okay. Now, we have heard testimony about other merger retrospectives that other economists have performed using a difference-in-difference analysis. Are you familiar with those other studies of the American-US Airways merger?

A. I'm familiar with some of them. I looked at the ones that were referenced by Dr. Town.

Q. And do those studies support or undermine your findings?

A. Well, every study does something differently. I think a fair reading of the studies is that the weight of the evidence clearly confirms what we found in AA-US. There was only one study that came to a different conclusion, but that study, in contrast to the other -- I think it was four studies -- is using a different technique and -- a different econometric technique that I have serious reservations about.

But clearly, from reading those studies, the weight of the evidence -- my view is the weight of the evidence supports our finding on these nonstop overlaps, especially the heavily traveled nonstop overlaps.

Q. Thank you.

Now, do you find that the results of these merger retrospectives, yours or others, are relevant for evaluating the effects of the Northeast Alliance?

A. Well, yes and no. The Northeast Alliance is not a merger. So mergers aren't necessarily relevant.

However, those merger retrospectives, as I said earlier, illustrate the importance of efficiencies from network effects and maybe other effects. And in that sense, I think they make a very important point that you have to take into account efficiencies when you evaluate transactions in the airline industry.

Q. Are they relevant to analyzing the reliability of

Dr. Miller's results from his merger simulation?

A. Yes, I think so, because he does not allow, does not incorporate any efficiencies whatsoever. Now, if there are no efficiencies and you do a merger simulation model, you are guaranteed to have only upward pricing pressure. So it's no surprise he's finding in his merger simulation prices are going to go up.

And that's because there's no downward pricing pressure from the efficiencies from the better network, from the better codesharing, from the better -- from slot swaps. There's none of that in his model.

So I think, in my view, it's just a completely inadequate attempt to model what's going on in the airline industry.

It also is the case, as I say in my report, that a merger simulation is not the appropriate tool -- his merger simulation is not the appropriate tool to use to analyze the NEA. The NEA isn't a merger. He doesn't account for -- won't repeat what I know Dr. Israel has explained at length, but it doesn't have any of the incentives of the NEA. It doesn't reflect any of them to expand capacity.

Q. Are you familiar with Dr. Israel's testimony comparing Dr. Miller's predicted fare effects -- excuse me. Are you familiar with Dr. Israel's testimony in which he runs Dr. Miller's simulation based upon the -- the

US Airways-American Airlines merger?

A. Yes, I am, and I'm aware that he has testified that Dr. Miller's model does a bad job, would have done a bad job, of predicting the effects of that merger.

I've already shown that it does a bad job of predicting what has happened to date. So, to me, it's -- for some of the reasons I just described, it's just a model that lacks credibility as a way to model and predict what's going to happen as a result of the NEA.

Q. Just one last question on this point. Dr. Miller makes an argument that the predictions that he makes from his model can be in some sense validated or deemed reasonable in light of evidence about what has happened when JetBlue has entered or exited various markets. Without getting into the details of those data points, do you agree that that's a reasonable way to -- to validate a merger simulation?

A. No, I don't. His merger simulation doesn't have entry and exit of JetBlue. JetBlue's an LCC, a low-cost airline. He's not modelling the effect of either entry or exit of an LCC. He's -- in his model, on his routes, he has competition diminished between the LCC and JetBlue and American. He's not removing JetBlue from -- from a route.

So it's just not a relevant comparison, it seems to me. It's a different experiment. When an LCC enters a route and it's the first LCC, there can be a big effect on fares.

No one is disagreeing with that. That's different than asking, what's going to be the effect of the NEA in which competition between the AA and B6 is going to be altered? Even though, the way he's arguing how it's going to be altered, I don't agree with.

Q. One last topic. I want you to actually kind of follow up on what you said about the model not incorporating downward pricing pressure. Can you just expand on that a little bit and explain to the Court what the effect is of ignoring either efficiencies or downward pricing pressure in a merger simulation model?

A. Sure. As I said earlier, if there were no efficiencies and you have a merger simulation model, all you're going to get is upward pricing pressure, because the way you model it, and the way he's modelling it, if it were a merger, which it's not, but if it were, he would just be modelling what happens when you diminish competition with no efficiencies. And the answer to that is, in these merger-simulation models, you get upward pricing pressure.

What you should do is take account of the efficiencies in some way. A simple example -- as a result of the codesharing or the NEA, is there going to be more feeder traffic? If there's more feeder traffic, that creates all sorts of incentives.

So, for example, I believe there's been testimony

from American that explained that their JFK-Tel Aviv flight was triggered because of this NEA allowing more feeder traffic to come into JFK. So you have more people bringing passengers into a hub. You might set up a new route. Well, that can be a big efficiency. You have to take account of that.

In his own model, he has -- it's kind of funny. He has what's called "utility of a passenger depending on flight frequency." But when you allow this NEA to occur, it means American can book me on a leg of American and then a leg of JetBlue. Well, that's pretty convenient for me, and that's a benefit to me.

He ignores that. He ignores that the schedules can be better aligned. He ignores that they can coordinate schedules. All of those are conveniences. And if you don't have those conveniences -- those are efficiencies that passengers like, that generates more traffic -- you're going to be ignoring all the downward pricing pressure that occurs.

And this downward pricing pressure isn't coming out of the goodness of American's heart. It's because it's more profitable to lower the price and get more traffic if you can do it.

So that is just all ignored in his modelling.

Q. You made a reference earlier to the distinction between horizontal and vertical effects. Can you explain a little

more what you mean by a vertical effect from an airline transaction?

A. Sure. Well, a horizontal effect, I think, is obvious that -- you know, that on a route, if two firms are competing and they merge, you now have one less competitor.

The vertical effect is that, as a result of a merger, you might be able to create more feeder traffic. And if you create more feeder traffic, you might, for example, add a route on a nonstop overlap, because even though there's been a diminishing -- a number of competitors, it's very important for you to have, say, a hub-to-hub being very well serviced so that all this feeder traffic that the transaction has created can flow out of the hub.

And that, I think, is exactly what's motivating the recent legacy mergers. They're trying to create better and better networks. That, I think, is a perfectly understandable motivation for the NEA.

And it's not just in the airlines. You know, if you look at other industries, if you look at the railroad industry -- another network industry -- they were always trying to merge to create their own feeder networks, and not just recently. Go back to the late 1800s. It's exactly the same thing where you have incentives to create large networks in order to provide yourself with feeder traffic.

So it's an important phenomenon in network

industries, and I just don't see how you can ignore it.

Q. Thank you, Dr. Carlton.

Let me just ask you then to sum up. I know you've prepared a slide on some closing thoughts. What do you conclude about the competitive effects of the NEA?

A. Yeah, so short summary would be the following four points. First, an analysis of the data shows that the NEA has not harmed consumers, has not raised fares.

Second, Dr. Miller's predictions of fare increases are just not credible, nor is his model.

Third, the -- if you're analyzing the industry, the airline industry, you have to take account of efficiencies and consumer benefits, otherwise you're going to get it wrong.

And then, finally, in the unlikely event that Dr. Miller's adverse fare effects do materialize, they'll be easily observable, and they can be addressed then. And it would be a mistake to try and stop a transaction that promises efficiencies and has generated efficiencies to date with no harm, no detectable harms.

MR. WALL: Thank you, Dr. Carlton.

I pass the witness.

THE COURT: Okay. Cross-examination.

MR. HEIPP: Good morning, Your Honor.

Good morning, Dr. Carlton.

THE WITNESS: Good morning.

MR. HEIPP: We're going to be passing out a binder or two, I think, to you, sir.

May I proceed, Your Honor?

THE COURT: You may. Go ahead.

CROSS-EXAMINATION BY COUNSEL FOR PLAINTIFFS

BY MR. HEIPP:

Q. Nice to see you again, Dr. Carlton.

This is not the first time that you've testified on behalf of a legacy airline, correct?

A. That's correct.

Q. You testified about this a few minutes ago, that you at least worked on behalf of legacy airlines during the large legacy mergers between 2009 and 2013?

A. Yes.

Q. And this is not the first time that you've testified as an expert on behalf of American Airlines, correct?

A. Yes. That's correct.

Q. You've worked as an expert on behalf of American a number of times in the past, right?

A. Yes. That's fair.

Q. At your deposition, you told me that you'd been retained by American more than five times, but you weren't sure of the precise number. Is that still your recollection?

A. That's probably correct.

Q. And other than the work you mentioned in New Zealand -- I think that was in the early 2000s or so -- you've never testified that a combination of two airlines would be anticompetitive, correct?

A. I'd have to check that, but I believe that's correct.

Q. So let's start --

A. When you say "testified," you mean in a court proceeding?

Q. Correct.

A. Yes.

Q. Let's start by talking about the analysis that you did of the effect of the NEA on fares. But to begin with, you'd agree, wouldn't you, that fares are not the only metric to look at when assessing the competitive effects of a transaction?

A. I agree with that, yes.

Q. You could look at effects on output, for example?

A. Yes. And I did, as I talk about in my report.

Q. And just to be clear, in the airline industry, when we talk about output, we mean passenger traffic; is that right?

A. Yes. I think that's a reasonable measure of output. You could also look at, as we did in our 2019 article, capacity.

Q. And just taking capacity, you didn't study the NEA's effect on capacity for this case, right?

A. I did not, no. I know Dr. Israel has.

Q. But as you mentioned, you did look at the NEA's impact on

output or passenger traffic, right?

A. Yes. I mentioned that in the report.

Q. And --

A. If I recall, I didn't get any significant findings one way or the other on output.

Q. Right. So you didn't find that there was any evidence that the NEA has increased output in terms of passenger traffic, right?

A. That is true, but it's also true that I don't find any support for the proposition that the NEA decreased traffic.

Q. And I understand.

A. That's what I -- my interpretation of the government's position is, that the NEA is harmful to competition, which means fares go up and output goes down, and I don't find either.

Q. I understand your argument on that, Dr. Carlton.

You mentioned in your direct testimony Dr. Israel's testimony that capacity has increased because of the NEA, but as you said, you didn't find any significant -- statistically significant effect on output, correct?

A. That's correct. I've not found -- I did not find statistically significant increases or decreases on output.

Q. You testified a few minutes ago about a table --

A. Relative to control.

Q. Sure.

A. Yeah.

Q. Let's pull up Table 6 from your report. It's DX-1081. You testified about this table, or a version of it a few minutes ago. Does this table look familiar to you, Dr. Carlton?

A. Yes. This is the same one that was up before, right?

Q. Yes. So just looking at the columns, the actual 2019 versus 2021, the four columns on the right, you explained that this was just a before and after comparison of the fares between those two time periods; is that right?

A. Yes.

Q. But you'd agree, wouldn't you, that changes in fares between 2019 and 2021 could be caused by things other than the NEA, right?

A. I agree. That's why I had control routes.

Q. But not in these tables here? This doesn't relate -- as you testified, this doesn't relate to your difference-in-differences analysis, right?

A. You're confusing two things. The difference-in-difference analysis, my regression analysis, was asking, is there any statistical support that the NEA raised fares? And the answer was no. The analysis here is analyzing predictions of Dr. Miller, showing they're way off.

Now, you had asked, is this -- my difference-in-difference analysis -- I'm going to refer to

the difference-in-difference analysis as the first thing I did. However, if you recall my testimony -- and it's in my report -- I did say that I am aware -- and Dr. -- and Mr. Wall asked me this question. He says, well, couldn't it have been due to COVID? And I said I did look at his prediction errors on the control routes.

So I am doing a difference-in-difference analysis and if I did that, you get -- you don't change my conclusion, which is that he is overpredicting on the treatment routes relevant to the control routes. So --

Q. Dr. Carlton, I would like you to just focus on my question.

A. This table does not have any information about control routes. I testified about it, though. And if you want to see what I did on control routes, it's in my report on the -- related to this table.

Q. My question for you, Dr. Carlton, is the price changes that you have in the four columns on the right side of this table, those are not price changes wholly attributable to the NEA, correct?

A. That is correct. And that's why I extended this analysis and did it on the --

THE COURT: He just asked you that. Just --

MR. HEIPP: Yeah.

THE COURT: Is it just -- that's all.

BY MR. HEIPP:

Q. So I think I understand you correctly to be saying that you can't simply compare these price changes to Dr. Miller's predictions without doing something more, correct?

A. Well, yes and no. What I'm saying is you can do it, but you better be aware you might -- it's possible you're making an error. So you better do it on the control routes to be sure that the conclusions you're reaching from Table 6 aren't altered, and that's what I testified to. They're not altered.

Q. So is that, yes, you need to do something more, something with a control route, for example, to compare these nominal price changes to Dr. Miller's predictions?

MR. WALL: That's asked and answered.

THE COURT: Sustained.

THE WITNESS: Yeah. Yes.

THE COURT: You don't have to --

THE WITNESS: Sorry.

THE COURT: You don't have to answer.

BY MR. HEIPP:

Q. Dr. Carlton, even looking at the nominal price changes, some of these routes, fares went up by a significant amount, right? If you look at Boston-Syracuse on the bottom row, in the first quarter of -- second quarter of 2021, I guess that is, fares went up almost 100 percent on that route? Is that

right?

THE COURT: Which route?

MR. HEIPP: Boston to Syracuse.

THE WITNESS: 97.6 percent.

BY MR. HEIPP:

Q. Am I understanding that correctly?

A. Yes.

MR. HEIPP: Okay. You can --

THE COURT: Yes, he's understanding your correctly. I was just --

THE WITNESS: Yes. Yes.

MR. HEIPP: Okay.

BY MR. HEIPP:

Q. Okay. So let's move from that and let's talk more about your difference-in-differences study and the control in treatment groups that you used. So you testified a few minutes ago about how significant an event the pandemic was for the airline industry and has been; is that right?

A. There's no question COVID has been an event that's affected the airline industry. If that's your question, yes, I agree with that.

Q. So considering how significant an event the pandemic has been, you agree that it's important to ensure that both your treatment and control groups reacted to the pandemic in the same way, right?

A. As best you can, yes. That's why I try to use care in choosing the control groups and experimented with different control groups.

Q. And I know you testified about that a few minutes ago, but you didn't do any specific tests to determine whether your control and treatment groups reacted similarly to the pandemic, did you?

A. I didn't do any tests other than sort of what I've described. Let me just think for one moment.

In one of my experiments, I put in 2020. And when I did that experiment, I did test whether the pre-trends, that is -- when I added 2020 to the 2019 data for pre-NEA, I did test whether the treatment and control had similar trends or trends that would alter my findings. That's my recollection.

Q. So you told me in your deposition that you didn't do a specific analysis of the differential impacts of COVID because you didn't expect that there would be a difference. Do you recall that?

A. I don't recall a specific question, but I'm happy to make clear what I've done and what I've not done.

Q. I'll just ask you, Dr. Carlton, you didn't expect that there would be a difference between your treatment and control groups in terms of how they reacted to the pandemic, right?

A. Yes. My expectation is -- the reason I'm choosing the control groups is because they will reflect industry factors, one of which is COVID, in a similar way to the treatments of -- comparing the treatment to the control will be a way in which you can try and control for COVID. That's correct.

Q. And so one potential difference between your treatment and control groups would be if they had different proportions of business-heavy routes and leisure-heavy routes. Is that fair?

A. That's possible, yes.

Q. But you didn't take any steps to account for differences between business heavy routes and leisure-heavy routes, right?

A. I didn't see an easy way of doing that.

Q. You're aware, Dr. Carlton, that business travel has been slower to recover from the pandemic than leisure travel?

A. Yes, I am aware of that.

Q. Just on Monday, during his testimony, Dr. Israel testified that COVID has held back business travel in the US. Did you hear that testimony?

A. I don't remember specifically that, hearing that, but that would square with my -- my understanding.

Q. And yet you didn't attempt to do any analyses to determine whether your control and treatment groups had similar proportions of business and leisure travelers?

A. Well, it's not that I didn't attempt to do it. It's that it's not so easy to figure out the proportion of business and leisure travelers on a route.

Q. You --

A. But, you know, the report speaks for itself.

Q. You didn't try to isolate leisure-focused routes from business-focused routes?

A. My recollection is there wasn't enough data that would allow me to -- to do that sufficiently.

Q. Okay. Let's focus a little bit more specifically on what you found. If we could pull up slide 4 from your demonstrative presentation this morning -- and this is DX-1049, this table here -- these are your finding of your difference-in-differences analysis for the Boston nonstop overlap routes; is that right?

A. Yes.

Q. And as you explained this morning, the asterisks in this table represent statistical significance?

A. Yes.

Q. So for the results here that are not significant, that do not have asterisks, the evidence doesn't allow you to conclude whether fares went up or down relative to the control groups -- control group, right?

A. Yeah, I would say -- as I said earlier, you can't reject the hypothesis that nothing happened.

Q. And the results that are significant are not robust to the various different specifications that you tried here, right?

A. Well, they're robust to the different specifications. They're not robust to the method of estimation, weighted versus unweighted, but they're robust to specification. If you compare column 1 to column 3, you'll see the ones that are significant in column 1 are significant in column 3, and that's using the technique that Dr. Miller is using.

Q. So let's dig into these results a little bit more. And I want to pull up a demonstrative that we prepared --

MR. HEIPP: Actually, hang on just a second on that.

BY MR. HEIPP:

Q. Let me just first ask you, Dr. Carlton, you would agree as we talked a moment ago that it could be important to look at both price and output when determining the impact of a merger or joint venture; is that fair?

A. Yes.

Q. And generally speaking, if fares go up and output goes down, that suggests that the combination in question is anticompetitive; is that fair?

A. All else equal if there's -- oops -- if fares go up and output goes down, that would be a bad thing.

Q. And if both fares and output go down at the same time,

you would want to dig deeper into that to figure out what was going on. Is that fair?

A. Well, it depends what question you're investigating. If someone is saying, All else equal, fares go up, output goes down, what do you think about that, Carlton? I would say that doesn't sound good.

And then if someone says, well, suppose I tell you fares go down, but output goes down. Now what? I'd say, well, it doesn't sound like you're holding all else constant; that is, the competitive effect, the adverse competitive effect would not be that.

If competition increased, then you would expect fares to go down and output to go down. I'm so sorry. If -- if competition increases, you would expect fares to go down and output to go up.

Q. Right. So I think you told me in your deposition that if both fares and output went down at the same time, you would scratch your head and try to figure out what was going on, right?

A. Yes, it must mean you're not taking all else as constant.

Q. Because you'd normally think, as an economist, that if prices fall, output should rise, right?

A. All else constant.

Q. If you observe fares and output falling simultaneously in treatment and control groups, one potential explanation could

be a negative demand shock affecting the treatment group more than the control. Is that fair?

A. Well, anything is possible. I mean, if fares fall more in one market than another, it means something is different in that market than the other one.

Q. And one possibility for what the difference could be is a negative demand shock affecting one market versus the other, right?

A. That's a possibility. There are a million possibilities.

Q. And when I say negative demand shock, I just mean a decrease in demand. Is that how you understand that term?

A. You mean because of other factors? In other words, you're not holding all else constant. That's the only point I'm making.

Q. I'm just talking about the term "negative demand shock" is a way that economists refer to a decrease in demand, all else equal, fair?

A. Took -- a shifting down in the demand curve. If price goes up, lessens demand, all else equal, that's different than the demand curve shifting.

Q. Okay. So now let's pull up that demonstrative that we prepared. This is PX-2009. So, Dr. Carlton, this is a table that we created using your backup data from your report. It's a version of Table 6 from your report.

What we did was we showed the fare changes that you

found comparing 2019 to 2022, quarter 1, so the most recent quarter of data that you have, in your updated Table 6.

The fare changes are the same, and then we also added the change in output in terms of a percent change and passenger count all calculated from your backup. And then on the right, in that box there, you can see that we calculated the average fare change and the average passenger change in the control routes that you used over this same period of time.

A. Yes.

Q. So I'd like to first point you to the top three rows. Those three routes, Boston to Rochester, Boston to Syracuse, Boston to Los Angeles. Do you see where I'm at?

A. Yes.

Q. On those routes from Boston, based on the -- on your data, the fares on those routes went up relative to the fares on the control routes, correct?

A. That looks right.

MR. WALL: Just -- object to the form. I mean, I -- is this intended to be an assumption, or is he asking him to verify the data? Because that's a very different question.

BY MR. HEIPP:

Q. I'm just asking you, Dr. Carlton, the -- this information is from your backup. Do you have any reason to think that

this is not correct?

THE COURT: I'm just confused what it represents, what you're telling me you think it represents. Because the 11.8 percent represent that the Boston to Rochester fares for American and JetBlue went up by 11.8 percent as compared to the American and JetBlue in 2019, or is it representing something else? I don't remember the other demonstrative exactly. That's why I'm --

MR. HEIPP: Sure. So these are the market-wide fares, the exact same numbers that were --

THE COURT: So the market fares for Boston-Rochester, 2022, quarter 1, versus 2019, quarter 1, as Dr. Carlton calculated them, went up -- just math comparison to those two numbers -- 11.8 percent?

MR. HEIPP: Exactly. The first column here is just the copied numbers from the table --

THE COURT: Right. But I'm just trying to figure out what was copied.

MR. HEIPP: I see.

THE COURT: And what was copied was the number that's just the change in fare?

MR. HEIPP: Correct.

THE COURT: Okay. Got it.

Do you understand, Dr. Carlton, what he's representing it to be?

THE WITNESS: Yes. And I think you're asking those numbers in the first column, higher than 8.7.

MR. HEIPP: Correct.

THE COURT: Higher than what?

THE WITNESS: Than 8.7. He's asking is 11.8, 34.6, and 27 higher than 8.7? And the answer is yes.

BY MR. HEIPP:

Q. And if you look at the column that has passengers, the decreases in the passenger numbers are greater, so those numbers are more negative, than the average change in passengers for the control routes during this same period, correct?

A. Yes.

Q. So on those three routes, relative to the control routes, fares went up and output went down, correct?

A. On those, but, you know, you've got a different result on the others.

Q. Yes. So let's just focus on those --

A. But the idiosyncratic factors with each route -- you know, there's no question that there are idiosyncratic factors on each route that are affecting things. But that's why you do statistics and you take averages, because those idiosyncratic effects will cancel out.

So, you know, I'm told -- I haven't studied this, but -- but there were reasons what happened on Rochester and

Syracuse; but, you know, others have spoken to that.

Q. I understand that, Dr. Carlton. I'm just asking you about these three routes and what happened to them. Fares went up and output went down, right?

A. Yes.

Q. And as you said earlier, when fares go up and output goes down, that suggests anticompetitive effects, right?

A. No. What I said, with all else constant, if you change the number of competitors and fares go up and output goes down, that's bad. What you've just established -- and I've just referred to my understanding -- say, what happened in Rochester and Syracuse? -- is there were other factors. So I'm not quite sure what point you're making.

Q. On those three routes, the effects that we see here are relative to your control group, right?

A. That's correct. But there are idiosyncratic factors affecting each of these routes. Now, when you take averages, you average out the idiosyncratic factors. That's why you do a regression analysis, and that's what I did when I presented my regression analysis. It's the whole point of doing a regression analysis.

Q. Why don't we look at the middle block of the chart, the next five routes, Boston to DCA, Boston to --

THE COURT: Just for me to understand one small question. "Passengers" is actual number of people who flew,

not seats?

MR. HEIPP: Correct, Your Honor. Passengers, number of passengers.

THE COURT: Yes.

BY MR. HEIPP:

Q. So those five markets that are next in the table -- Boston to DCA, Philadelphia, Dallas, New York City, and Chicago -- do you see those rows, Dr. Carlton?

A. Yes.

Q. And is it correct that on those routes, fares went down relative to the control routes?

A. Yes.

Q. And passenger traffic also went down relative to the control routes, right?

A. Yes.

Q. And that's the situation we were talking about a moment ago where you would want to dig deeper to figure out what was going on, fares and passengers going down at the same time, correct?

A. Yeah. That wouldn't be consistent, would simply -- an anticompetitive --

THE COURT: Say that again. I couldn't hear you.

THE WITNESS: In order to figure out if something is anticompetitive or not, you expect prices to go -- all else equal, prices to go up and quantity to go down. If you

don't see that, then there's something else going on.

And if you're analyzing data to see did the NEA increase fares, you know, I agree that fares are going down on some routes, but not on others. But compared to controls, the question is, is there a systematic tendency that the fares are higher? And that's what I did. That's -- but we're not doing it here, but I'm happy to keep the discussion going.

BY MR. HEIPP:

Q. If fares are going down and output is going down at the same time relative to controls, that's consistent with a negative demand shock, right?

A. Could be. But if fares are going down, that can be consistent with efficiencies. That's my point.

Q. My question, Dr. Carlton, was just it's consistent with a decrease in demand, a negative demand shock, correct?

A. Yes. But it's also consistent with increased efficiencies that caused fares to go down. So there's no way you can look at this data and say it's consistent with a hypothesis that the NEA is bad and is causing fares to go up. That's my point.

Q. These five routes that are highlighted here, those are business-heavy routes, aren't they?

A. I -- I would have to, you know, investigate it. Sounds plausible, but I'd have to investigate it. There's no easy,

readily available statistic that I'm aware of that classifies business versus leisure.

Q. And you didn't, in your report or in your testimony, seek to determine whether the change in fares and passengers versus the control that we're seeing here was related to these routes being business-heavy routes? You didn't do that analysis, did you?

A. Well, as I said earlier, I didn't have an easy way of doing it. I'm not aware that anyone has done that in this case, including your experts. I assume, if that would undo my result and it was possible to do, they would have done that, but they haven't.

And, again, I repeat, there is no way you can look at this data and say it supports a claim that the NEA raised fares relative to a control.

Q. Let's move on. So let's turn to New York. Let's pull up slide 5 from your demonstratives this morning. This is DX 1050. So you testified about this already, but just to highlight, none of the results that you found for New York are statistically significant, right?

A. That's correct.

Q. And so the evidence here doesn't allow you to conclude one way or the other whether fares went up and down on --

A. You seep saying it that way, so let me repeat what I said in my direct. When I find something not statistically

significant, it means I can't reject the hypothesis that there's no effect. There's just -- but there's no way you can look at this data and say that it supports statistically a claim that the NEA has raised fares. You just can't. You can't use the actual evidence to say, based on what's happened, it's obvious fares are going up.

And, in fact, you can go further. If you go back to the Boston chart and you looked at that first column, or any of the columns, you could say, "Can you reject the hypothesis that what Dr. Miller is saying is going to happen in Boston?" -- fares going up by -- I forgot what the exact number was -- 27 percent, or whatever, on average -- "Can you reject that?" Yes, you can definitely reject that.

Q. Dr. Carlton --

A. There's no way --

Q. Dr. Carlton, I know you like talking about Dr. Miller. I'm asking you about what you found here.

A. Yes.

Q. You found none of these results for New York are statistically significant, correct?

A. That is correct.

Q. And so you can't rule out that the NEA has actually increased fares on nonstop overlap routes, right?

A. I can't rule that out, but it would --

THE COURT: That's all he's asking.

THE WITNESS: Okay.

THE COURT: One, it's sort of efficiency, is if you just answer the exact question, no further. Mr. Wall will be perfectly content, if he wants more, to ask you more.

THE WITNESS: Okay.

BY MR. HEIPP:

Q. Okay, Dr. Carlton. Let's shift topics. Just really quickly, you talked a little bit about network benefits and things like that related to the NEA, right?

A. Yes.

Q. But you haven't attempted to quantify any of the benefits that are supposedly created by the NEA, right?

A. That's fair.

Q. You haven't analyzed American and JetBlue's pre-NEA networks to determine whether any efficiencies might be created?

A. You know, other than what I've done in my report, I have not done any additional analyses of the network efficiencies. I do point out certain obvious efficiencies that are in Dr. Miller's model from the NEA that he ignores. But other than that, I have not done an investigation of the efficiencies flowing from the NEA.

Q. And you talked about feeder traffic a few minutes ago, but you haven't actually looked at whether the NEA creates additional feeder traffic, right? You haven't analyzed that?

A. I have not done a study of that. I know others have.
Q. And you're not aware of any domestic cities that JetBlue serves from Boston that American doesn't already serve from one of its hubs?
A. No. I've not studied that in my report.
Q. Okay. Let's shift to a different topic. You testified that the results of Dr. Miller's model are not in line with the results from your retrospective analysis of the legacy airline mergers, right?
A. Yes.
Q. And your opinion is that the earlier legacy mergers are appropriate points of comparison to the NEA?
A. I wouldn't say that. That's not what I testified to. What I said was the NEA is not a merger, so what happens in a merger may not be a good guide to the NEA.

But what I did say is what I've learned from those legacy studies is that -- the importance of creating efficiencies through a merger, and one of those efficiencies is better network effects are important in the airline industry. And you can't ignore them.
Q. You also talked about some other studies, but you're aware that there are academic studies showing price increases from airline mergers, right?
A. Very few. My understanding of the -- other than that one study that I cited, the other studies that I -- that Dr. Town

has cited, my recollection is, confirm what I found in my 2019 study; namely, that on heavily traveled routes, fares go down.

Q. This has been the subject of testimony already, so I won't dwell on it, but you're aware of a 2006 paper by Dr. Craig Peters showing mergers, airline mergers producing price increases between 7.2 percent 29.4 percent? And are you familiar be that paper?

A. I'm familiar with the Peters paper. I wouldn't remember those exact numbers, but it squares with my recollection that the early airline mergers, which is what he's looking at in that paper, were often associated with large fare increases.

Q. So let me ask you more specifically about the retrospective study. That was a difference-in-differences analysis like the one you did for the NEA? Is that fair, more or less?

A. You mean my 2019 study?

Q. The legacy airline retrospectives.

A. Yes.

Q. So you had control and treatment groups there?

A. Yes.

Q. Let's pull up your paper, and that's DX 761, if we could turn to Table 1 from that paper. And it's in your binder, Dr. Carlton, but it will also be up on the screen.

A. Okay. Let me just find it.

Q. It's page -- it's page 68 if you use the internal pagination of the paper.

A. I think I have it. Yes.

Q. Are you there?

A. Yes. Just tell me what page.

Q. It's page 68, at the top.

A. Yes.

Q. You have that, Table 1?

A. Yes.

Q. These are the nonstop overlap treatment routes that you used for your comparison listed here on this table?

A. Yes.

Q. So, first of all, you understand that the Department of Justice did not challenge either of the Delta-Northwest or Continental-United mergers?

A. That's my general recollection.

Q. And the American-US Airways merger was challenged but settled with remedies, correct?

A. That's my understanding.

Q. So let's focus on that last one, the American-US Airways merger. The nonstop overlap treatment routes that you used are those five listed there -- Charlotte-Dallas, Dallas-Philadelphia, Charlotte-Miami, Miami-Phoenix, and Dallas-Phoenix -- those five routes, right?

A. Yes.

Q. You looked at five routes out of almost 20 routes where American and US Airways both offered nonstop service?
A. Well, I don't remember if it was 20. I'd have to go back and check. But these are the routes that were most heavily concentrated as a result of the transaction.
Q. Do you recall in your deposition I asked you some questions about the Wright Amendment?
A. Yes.
Q. The Wright Amendment was a federal statute that restricted the ability of an airline to fly beyond a certain perimeter of states from Dallas Love Field, right?
A. Yes.
Q. And that effectively limited competition between airlines operating at Love Field and airlines operating in the Dallas Fort Worth Airport, right?
A. That's my general recollection, yes.
Q. And the Wright Amendment was repealed and no longer effective starting in 2014, correct?
A. I don't remember the exact date, but that sounds right.
Q. And that's concurrent with the period that you looked at to determine whether there was a fare effect on these routes?
A. Yes. I think you asked me this in my deposition. I went back and looked, and there is some overlap. But as I told you, I do an experiment in which I limit the after period. And I looked, and it's only a small fraction of the after

period that would have been affected. So I don't think that has a material effect on my results.

Q. And it's your understanding, isn't it, that Southwest Airlines has a base of operation at Love Field in Dallas, right?

A. Yes.

Q. And they, Southwest, launched nonstop routes across the country starting as soon as the Wright Amendment was no longer effective, right?

A. You know, I don't remember off the top of my head how rapidly they did it. It's my general understanding that the restrictions that Southwest had out of Love Field were lifted.

Q. But you didn't know -- you didn't look at exactly what service they introduced and when?

A. Not recently.

Q. And your paper doesn't discuss the Wright Amendment or Southwest service at all?

A. I believe that's -- I'd have to check the paper, but I believe that's correct. And as I said in my deposition, it was my recollection that, even though the justice department knew the Wright Amendment was going to expire, that that did not alleviate their concerns about competitive problems on these routes.

Q. And three of the routes that you looked at had endpoints

in Dallas, right?
A. Correct. But as I told you in my deposition, I have an experiment in which I limit the after period that would -- and I get the same results.
Q. You limited the period to just 2014, right?
A. To one year, whatever the relevant year would be.
Q. Yeah. You told me in your deposition that you limited it to just 2014. Is that consistent with your recollection?
A. That sounds right. I mean, it's -- you know, there are several tables in the appendix that talk about the controls. I believe it is one year, yes. Plus or minus one year.
Q. And Southwest Airlines launched expanded service from Love in 2014, didn't they?
A. My recollection was -- I did go back after my deposition and look at it. It was only at the very end, So it wouldn't affect the whole year. And I compared my results to when I used the narrow period to the two-year period. I came to the same conclusion.
Q. So let's -- let me ask you a different question. So as I mentioned a minute ago, the litigation challenging the American-US Airways merger was settled, right?
A. With the Department of Justice, not in the bankruptcy court, where it was a private party.
Q. Right. With the government claims, and there were a set of divestitures that were agreed to as part of that

settlement with the government?
A. Yes.
Q. And some of those divestitures were at Miami International Airport, correct?
A. You know, I would have to go back and check, but that might be.
Q. And the other two of your treatment routes, the ones that don't touch Dallas involve Miami, right?
A. Two of my treatment groups involve Miami.
Q. So all --
A. Is that what you asked me?
Q. That's what I was asking, yes. That's correct, right? So all five of your treatment routes were potentially impacted by either the Wright Amendment repeal or the Miami divestitures, weren't they?
A. I think it's possible, but I already told you what I did about the Wright Amendment. As far as the divestitures, I didn't separately analyze divestitures, but others have, and their conclusion is that, even when you take kind of the divestitures, there was -- they confirm our fare effects.
Q. But your paper didn't discuss or even mention the Wright Amendment or the divestitures at all, right?
A. I'd have to go back and check. I believe -- well, whether we -- I'm surprised there's no mention that it was settled with divestitures, but we certainly do not claim we

are separating out the divestiture effect from the non-divestiture effect.

But other papers subsequent to ours -- which was the first one published -- other papers have tried to do that, and they find that the divestitures do not affect -- do not explain all of the fare declines and that there still were fare declines even taking into account the divestiture effects and separating those out.

Q. But that's not something that you did or even mentioned doing in your paper, right?

A. I didn't do that in the -- in our paper. I think our paper is clear. We're looking at what happened post-transaction, which included divestitures. And we make no claim to separate out the divestiture from the non-divestiture effect. Like I say, other papers subsequent to ours have done that and still confirm our results.

MR. HEIPP: Okay. No further questions from me, Your Honor.

THE COURT: All right. Any recross -- or redirect?

MR. WALL: Just one or two.

REDIRECT EXAMINATION BY COUNSEL FOR AMERICAN AIRLINES

BY MR. WALL:

Q. So the point was made about the fares and the passengers on the Boston-LAX route. Do you remember that a amount ago?

A. Yes.

Q. Now, those observations come from DB1B data, right?

A. That's my recollection, yes.

Q. Okay. So it's all publicly available data, right?

A. Yes.

Q. So can you think of any reason why the Department of Justice and the economists that you presided over, or at least current version of the economists you presided over when you were the chief economist, could not take the Los Angeles market and conduct a full analysis of the competitive effects that may have occurred on that market and present it at the trial of this case?

A. I'm not aware of any impediments they would have had.

MR. WALL: Thank you, sir.

No further questions.

MR. HEIPP: Nothing further, Your Honor.

THE COURT: Thank you very much. You're excused.

THE WITNESS: Thank you.

THE COURT: Is that the end of the defense case, Mr. Wall?

MR. WALL: Well, I -- I've learned never to say that until I check with others about document admissibility issues.

THE COURT: Okay.

MR. WALL: Ms. Tavernia will take care of it because she actually knows what to do.

THE COURT: That's the first time, Ms. Tavernia, in this case, I think, the Mr. Wall has conceded that someone else knew more about something related to the airline industry than him, so it's quite a compliment.

MR. WALL: I don't know. Vasu.

THE COURT: You didn't concede that.

MS. TAVERNIA: So at the outset of the case, Your Honor, we had admitted certain exhibits that did not have objections and, during the course of the proceeding, there have been other exhibits that the objections have been withdrawn for, and so we wanted to move to admit additional exhibits that don't have objections.

THE COURT: Okay. Which ones?

MS. TAVERNIA: There's a long document --

THE COURT: Okay. You have a document that lists them, or do you want to read the list?

MS. TAVERNIA: We have a document that lists them, so I was thinking we could do it that way, but --

THE COURT: Fine.

MS. TAVERNIA: -- I'm free to read them if you prefer.

THE COURT: Sure. No, no. As long as you've given it to them and they agree there's no objection and --

MS. TAVERNIA: We shared it them with them yesterday, and I didn't receive any objections, so --

MR. JONES: There are no objections to the list they provided to us, Your Honor.

THE COURT: So just give me the list and --

So for the record, the defendants have given me a list that's a multi- -- a ten-page list of additional exhibits that are -- that they are offering without objection from the government to admit into evidence, and I admit those exhibits, all of the ones listed on this list titled "Defendants' Exhibits Without Objection, Supplemental List," and we have a paper copy here for the record.

(Defendants' Exhibit Nos. as listed admitted into evidence.)

THE COURT: All right. Anything else?

MR. WALL: No, Your Honor. At that point, the defendants rest, Your Honor.

THE COURT: All right. Fine.

What do you have, Mr. Jones?

MR. JONES: Yes, sir, Your Honor. We're ready to proceed with our rebuttal case if Your Honor is prepared to -- for us to start now.

THE COURT: All right. So you have Town and then Wall?

MR. JONES: We have -- no, not --

THE COURT: Not calling Mr. Wall? This is your chance. Put him on the witness stand. You could cross him.

MR. JONES: Never examine a lawyer whom you don't have to, Your Honor.

But we have -- we have --

THE COURT: I'm sure there's -- I know Mr. Moore would want that examination. There's lots of questions he wants to ask of Mr. Wall. I know that. I don't think -- I'm surprised you're passing.

MR. JONES: Well, we do have Dr. Town, Your Honor and, if we have time today, Dr. Miller.

THE COURT: Those are the two rebuttal witnesses?

MR. JONES: Those are -- those are the two rebuttal witnesses.

THE COURT: Okay. All right. So why don't -- it's almost ten of 11:00. Why don't we just take the morning break now, and then we'll just start fresh after the break with Dr. Town.

We stand in recess.

(Court in recess at 10:49 a.m.)

and reconvened at 11:05 a.m.)

THE COURT: Ready to proceed?

Please be seated.

MR. HEIPP: Your Honor, I have one quick item before we start with Dr. Town. There's been conversation about whether the expert reports should be admitted into evidence a few times.

THE COURT: Yes.

MR. HEIPP: We'd like to renew that request right now. We just think -- continue to think it makes sense, given the detailed nature of the facts and -- that the experts have been testifying about and been subject to cross-examination about their reports.

MR. WALL: I mean, our position really hasn't changed, but as you recall, it also has an element of it of whatever Your Honor wants, so --

THE COURT: I'm inclined to -- well, let me say two things. I'm inclined -- then given that, I think I'm going to -- I'm going to allow the request to admit the expert reports into evidence, subject to the caveat that I reserve the right to reverse myself after I've reviewed everything, but I think -- there's been a lot of discussion about criticisms of different people's approaches and models, and to some extent, I may need to look at what they actually say they did in order to understand those criticisms fully and evaluate them, and so that's why I think it would be helpful to have the report, so for that reason, I allow it.

I will -- that brings up a related point that I've been thinking about, that I sort of foreshadowed for all of you, I thought. But I just want to bring it to your attention again. Which is there are a lot of exhibits in this case, more now than there were a few minutes ago. And

my -- unless someone makes a convincing argument to me to the contrary, my intent when I review all of this is the exhibits that I will be focusing on will be the exhibits that were discussed during the trial, or which you, in your post-trial briefs, meaningfully cite, describe, or refer to. So it doesn't mean that if you -- like meaningfully. So you know, you could cite -- it might be enough to cite an exhibit for supporting -- it establishes this fact. That's enough and you don't have to describe it anymore and I would look at that and consider whether that fact is established. But a string cite to 80 exhibits that doesn't really have any meaningful discussion or reference or citation doesn't do it for me, and if those 80 exhibits didn't come up at the trial, I'm not planning to read those 80 exhibits, and whether I would -- I would have to think about whether I would strike them or not. I don't know what effect that really has on the end anyway, but that's -- in terms of what I'm going to engage with and think about, that's what I'm thinking about. And you can now or later express a different view, but that's how I think about it.

MR. WALL: So I think that that comment just reflects to me that -- the issue with respect to the expert reports, which is expert reports are really long, and there's a lot of stuff in there that, you know, to be blunt, didn't make the cut to actually bring it to Your Honor's attention,

and it's one thing to have those available to Your Honor, and in that sense, in evidence, so that you can refer to them and think about background. It's another thing to have those have the same standing.

THE COURT: So I'm not -- let me just tell you what I'm likely -- I think where we're going is this. Like there were -- Dr. Carlton, for example, criticized certain aspects of Dr. Miller's analysis and his model. In some of those, I imagine there might be rebuttal testimony about that, but some of that, to sort of figure out, I might need to look at the report. And the portions of the report to talk about the things that he was criticizing, and the same is true for all the exhibits with each other. And to that extent, I think I'm likely to look at the expert reports, as to why I would allow it.

On the other hand, if I recall, one of the expert reports was 190 pages, I think. And I'm not likely -- single spaced, if I recall. And --

MR. WALL: And I think that was a reply report.

THE COURT: So I'm not likely to be going through -- one, I'm not likely to be reading that 190 pages to the extent it doesn't follow with what I first described, then I'm probably not going to read it. I would view that as, even though I've just admitted it, as more in the other category. And I'd look at his -- the testimony, and I would

look at what was discussed, and if I need to understand a portion, I would look at a portion of the report describing that. I'm also not likely, I don't think, to seize upon, which is probably what all of you were worried about, the risk of all of you submitting anything in evidence, is that I would seize upon something that you didn't discuss or refer to at all, and suddenly be captured by that document or set of documents and then go off and rule one way or another or something on that. I'm not likely to do that, because if it hasn't been meaningfully discussed, I won't have the benefit of any input from any of you, and that doesn't seem to me generally, in any of my cases, and certainly in this one, a wise way to go. If I thought that, I'd probably come back to all of you and say what about that. Tell me whatever you think.

MR. WALL: Okay. It's understood.

THE COURT: That's what you were worried about.

MR. WALL: Well, I'm worried about -- there are literally, chapters, if you want to call them that, that never were brought up. And it's just the idea that it's part of the record, and it could be cited in findings and that just doesn't seem appropriate to me, but I fully understand what Your Honor's saying and defer to Your Honor to make those judgements.

THE COURT: So I mean, the reason I'm sort of

describing the role this way is it seems to me that I could imagine, if this were a jury trial, I would tell you if you admitted something into evidence and you didn't talk about it in your case -- with your witnesses and you didn't mention it in your closings with the jury, then why in god's name were you fool enough to admit it? Like what were you doing? It would make no sense and so this is different. And I understand why there could be something you put into evidence and you just want to talk about it in your post-trial brief, and that would be fine. But if it's not one of those two, then I'm not likely to look at it.

MR. SCHWED: Right. I think what Mr. Wall is getting at is the expert reports, I think it's a risk with anything, any document that wasn't talked about at trial, but maybe more of a risk with an expert report for which is, there was more cross-examination about 50 pages --

THE COURT: So if what you're worried about is that the government now will say take pages 100 to 192, and if those pages weren't talked about, and suddenly there's ten pages in their brief about that. Right? So, yes, I see that worry and I guess what I would say to all of you is partly, I have to figure that out when I get to it. I can't say -- I can't sit here without having read those pages and say forget it, I wouldn't think about it, but I do think that the expert reports, if I assume what the opinions you wanted it, you got

from them in court. And the reason for the -- for the me to look at the background reports is to understand the criticisms of the model of the approach, or what have you, in other words, what did they do, how did they put that together, and is that a fair criticism or not. If you're --

I'm not saying you can't cite it for other things, but I would be thinking about that. And I don't know how I would resolve that until I looked at exactly what it was. I think it would depend a little bit. But opinions that were never uttered before seem like -- that seems -- I'm not saying you can't do it, but I'm just not sure how persuasive that would be, because it wouldn't be tested the same way.

MR. SCHWED: Thank you, Your Honor. I think that was our concern.

MR. HEIPP: Understood, Your Honor. Thank you.

THE COURT: Okay. Go ahead.

ROBERT TOWN, Ph.D.

having been duly sworn, testified as follows:

DIRECT EXAMINATION BY COUNSEL FOR PLAINTIFF USA

BY MR. HEIPP:

Q. Welcome back, Dr. Town.

Like last time, have you prepared a set of demonstrative slides to help guide us through your testimony today?

A. I have.

Q. So have you heard or reviewed the testimony since you were here a couple of weeks ago?

A. I have.

Q. You've heard the testimony of the defendants' experts and the claims that have been made about the impact of the NEA?

A. I have.

Q. Can you describe, in general, your opinions regarding those claims?

A. Yeah. I have four key opinions. The first one is that the defendants claim benefits are driven by assumed increases in capacity from the NEA. And historically, as my previous testimony indicated, that consolidation has not led to increases in capacity.

Second, the data shows that the NEA has not led to increases in capacity across the combined American/JetBlue networks. Third, Dr. Israel's benefit analysis is flawed for two fundamental reasons. First, Dr. Israel relies on flawed estimates of the increase in passenger traffic from the NEA. This gets back to the v2 versus 2019 schedules. And second, the methodology he used to translate those changes in passenger traffic to monetize for the consumer benefit analysis is fundamentally flawed and unreliable.

And finally, Dr. Israel's estimated change in traffic. This is the share analysis that he did, turned out to be inconsistent with the Raven modeling he did. Like

there's two sets of increases in passenger traffic that come from both of those approaches and they're unrelated to each other. They're almost entirely uncorrelated, suggesting that either one or both of those approaches are flawed.

Q. So let me ask you about the first of those opinions first. Can you explain what you mean when you say that the claimed benefits are driven by assumed increases in capacity?

A. Sure. So here's a little bit of a schematic of the work flow, as I understand it, that underlies Dr. Israel's benefits claims. So as we've heard quite a bit about, there was the clean team that constructed two schedules that were inputted into the Raven modeling. So these clean team schedules have assumed capacity increases embedded in them, or at least assumed capacity levels embedded in them, with the v2 schedule having significantly more capacity than the 2019 schedule. So those schedules are then put through Raven. And then Raven estimates the implied traffic that comes from each of those schedules, and then that's where Dr. Israel analysis enters. He then takes that claimed difference in passenger traffic that comes out of Raven to monetize the consumer benefits.

Q. Did Dr. Israel testify about the role that increased capacity plays in his conclusions?

A. Yeah, I think he agrees that increased capacity is the main driver of his consumer benefit claims. And here's a

couple of quotes from Dr. Israel from this trial on this point. And I won't read them, but it clearly states that the benefits are being driven by increases in capacity.

Q. So what did Dr. Israel's testimony indicate about the impact of combining and optimizing American and JetBlue's networks without increasing capacity?

A. That without the increase in capacity, there's not really an increase in benefits.

Q. So what are the implications of the increase in passengers being driven by this increase in capacity?

A. So there are two principle implications. First, and I think there's been a lot of discussion around that, but to the extent that the defendants would have added capacity absent the NEA, then traffic would be the -- expected to increase without the NEA, and that if the traffic were to increase without the NEA, then the analysis that's being produced by the clean team and Raven understates or -- and I'm sorry, overstates the impact of the NEA.

Second, the extent that there's growth within the NEA that's coming from expensive flying elsewhere, flying on nonNEA routes would be expected to decrease under the NEA. This is the so-called Peter to pay Paul effect.

Q. So let's talk about the first one of those first. So why do you think that the defendants would have added capacity absent the NEA?

A. So first, this historically, they've added a lot of capacity over time. So this is a graph of the historical levels of the combined American/JetBlue capacity, from 2009 onwards. And you can see that their joint capacity has grown in almost every year. There are a couple of years where it's flat.

Now, the dark blue part of these bars is the JetBlue component, and the light blue bars is the American component. And you can see the JetBlue bars have been steadily increasing over time.

Q. What are the two red bars on the right side of this graph?

A. So the two red bars represent the clean team schedules. The 2019 actual, that represents what their baseline case is, absent the NEA in 2023. And then the 2023 NEA optimized v2 schedules, the schedule we've been talking about. And you can see here that the v2 schedule is -- assumes an increase in capacity over the 2019 actual.

Q. Is this the comparison that Dr. Israel makes?

A. This is the comparison that Dr. Israel makes and this is what drives his increase in passengers.

Q. Does Dr. Israel attribute the difference between the red bars as completely related to the NEA?

A. He attributes all of that difference as driven by the NEA.

Q. And what does that imply, if anything, about what Dr. Israel expected about American and JetBlue growth without the NEA?

A. Well, his assumption is that without the NEA, JetBlue and American would not have grown.

Q. How much of the difference between the two red bars is accounted for by JetBlue?

A. Most of that difference is accounted for by JetBlue. It's about 84 percent.

Q. So given that, did you look specifically at how JetBlue has grown since 2009?

A. I have, and this is a graph depicting that. And you can see here, JetBlue has grown substantially in every year since 2009 through 2019.

Q. So this is looking back at history. Did you also look at the evidence of JetBlue's growth plans that have been discussed during the trial?

A. I have.

Q. And I'll note that the numbers on the next slide are redacted because this is based on a document that has been sealed by -- by JetBlue. So I'm just going to ask you about the direction here and not the numbers, as we've done in the past with documents like this.

So what does this -- what do you conclude from the analysis that you present here on this slide?

A. So this is the plan that Mr. Friedman testified about, the no Connie plan, that is the plan without the NEA for JetBlue. And you can see that this plan had substantial growth embedded in it going forward. And it's important to note that this plan was put together in July of 2020, which is concurrent with the clean team schedule, and it's also concurrent with the signing of the NEA, approximately.

Q. Did you look at any other JetBlue plans that have been discussed during the trial?

A. I have. So this is one year later. This is the plans that Mr. Clark testified about. And they -- so this one year later and you can see that the basic pattern of plan growth is very similar to what it was in 2020, with the exception of 2021 still kind of being affected by COVID. But otherwise, you see that this plan had JetBlue growing in each year. And note that it's growing whether you include the E190s, right? There's some discussion about whether those would be retired or not, and whether they're included with the NEA or they would have been retired without the NEA, it doesn't change the conclusion that there was planned growth.

Q. Let's go to the next slide. So can you explain the second conclusion that you described a few moments ago?

A. Yeah, so to the extent that there's growth within the NEA, if that's coming at the expense of capacity at other parts of the networks, then focusing only on the NEA will

overstate the impact of the NEA. And so you need to have a holistic view of the impact of the NEA to make an appropriate analysis.

Q. Under the schedule that the clean team produced and that Dr. Israel used, what did that schedule assume about flying outside the NEA?

A. So that schedule assumes that that flying is held fixed.

Q. Let's take a look at some actual capacity data. What is being depicted on -- in this graph here?

A. Yeah. So this is the horizontal axis is time and it's starting in September of 2017, and the vertical axis is the percentage change in ASMs, and here I'm benchmarking it from September 2018, and I chose September 2018 because it's not affected by the 737 MAX slot waivers. And this is JetBlue's capacity, broken out by the NEA airports, which is the blue, and the nonNEA airports, which is the red, and they -- the kind of total capacity is the black dash line there. And you can see that the blue and red line roughly track each other until about June 20th -- maybe a little later, maybe about September 2021, and then they start to diverge, so that capacity on nonNEA routes for JetBlue is in --

THE COURT: September 2020. That's when they diverge.

THE WITNESS: Well, diverges, comes together, and then diverges again, maybe. But certainly from 2021,

onwards, those lines are diverging, and that is suggesting that the capacity increases in the NEA, at NEA airports, is being funded through -- at nonNEA airports.

Q. Have you also heard testimony during the trial about American decreasing flying outside the NEA?

A. I have. And in particular, there's been a lot of discussion about flying at Philadelphia. I heard there's some testimony yesterday about that. And so in this graph, I'm depicting American's capacity at JFK, LaGuardia, and Philadelphia for two years, 2018 and 2022. And then the -- the red being 2022, and the blue being 2018. And at JFK, you can see that the capacity American has at JFK has increased, and particularly the amount of international flying out of JFK has increased. That's the kind of more pale color of the two. So there's been an increase in -- or international traveling at JFK, but it's come at the expense, to some degree, of domestic flying out of JFK.

MR. WALL: Objection, Your Honor, there's no foundation that he can possibly testify to the causation there.

THE COURT: Sustained as to the causation. He can say what he sees, without a foundation.

BY MR. HEIPP:

Q. Dr. Town, let's back up. And let me ask you, why did you break out the domestic and the international in this chart?

A. I broke it out because there has been discussion -- some discussion about the introduction of international flights out of JFK because of the NEA, and so it helps illuminate that discussion.

Q. So let's make that a little more concrete and let's look at the next slight. Did you hear Mr. Friedman testify about eight new intercontinental routes that American launched from JFK?

A. I have and I have listed those here.

Q. And Mr. Znotins also testified about this yesterday?

A. Yes, he did.

Q. So what do you know about these routes? These eight intercontinental routes?

A. So here, I put them into some categories. First is kind of were they served from a nonNEA airport prior to 2019, and so yes means they were, and the blank means they weren't. And then also, were they served from a nonNEA airport in 2022, that is, could you connect through a different airport to go to, say, Tel Aviv. And then you can see here that --

THE COURT: Served by --

THE WITNESS: American. Yes.

And so here you can see, of the eight routes that have been identified, five of them could have been -- you could have connected through a different nonNEA airport to those cities. And then in 2022, you could connect to

Tel Aviv through Miami, I believe.

And then importantly, of these eight routes, American is exiting four of them.

BY MR. HEIPP:

Q. Which ones are they exiting?

A. They're exiting all the Colombia routes and then also the Santiago route.

Q. Did you also hear Mr. Znotins yesterday testify about a number of other smaller domestic routes that American has entered?

A. Yes, I have.

Q. What do you know about any of those routes?

A. Well, I know that, for example, LaGuardia-Pensacola is another route that he listed that they'd entered, but they're now going to exit.

Q. So let's turn to the third point that you mentioned in your summary, at the very beginning, Dr. Israel's benefits analysis. Can you first just describe, at a high level, what Dr. Israel did?

A. Sure, there's two main steps in Dr. Israel's analysis. The first is he takes the results from the clean team. The clean team developed those flight schedules that we've heard about. And then two of those schedules are run through Raven, the 2019 actual schedule, and the 2023 optimized v2 schedule, and then the output of Raven are sets of passenger

traffic predictions. And then Dr. Israel takes those passenger traffic predictions of the two sets -- from the two sets of schedules, and then he interprets those differences in passenger traffic as the causal impact of the NEA. And then he takes those passenger traffic differences and then applies a very simplistic formula to convert those into dollar values.

Q. Did you identify any flaws in the first step that Dr. Israel did?

A. Yes.

Q. Can you explain the flaw that you identified?

A. Sure. The assumption that there's no growth absent the NEA is a fundamental flawed assumption here. I think there's -- as I just showed, there's evidence that they're going to be -- the parties were planning on growing.

Q. Did you look at the specific differences in capacity between the 2019 schedule and the v2 schedule that Dr. Israel used?

A. Yeah. So here's a graph kind of depicting what I can discern from the Raven output. And so the gray bars -- so first of all, the blue bar on the left is the amount of capacity in seats assumed in the 2019 schedule, and then the red bar is the number of seats that's assumed in the 2023 v2 schedule. So you can see that the assumed capacity in the v2 schedule is meaningfully higher than the 2019 actual

schedule.

And then of that increase in capacity, I can discern whether that capacity, for some of it, not all of it, but I can certainly discern whether that is inappropriately attributed to the NEA. And that includes the 737 MAX slot waiver, and parts of the JetBlue's and American's order books that I can kind of calculate or were contributing to this capacity increase.

Q. How much of the assumed growth that Dr. Israel attributes --

THE COURT: Pause one second. This is growth within the NEA, or system wide growth.

THE WITNESS: Yes.

THE COURT: NEA growth?

THE WITNESS: NEA growth.

THE COURT: Okay. Got it.

Go ahead.

BY MR. HEIPP:

Q. Were you able to tell how much of the growth between the two schedules is accounted for by the things you just described, the gray bars?

A. About one-third. So one-third of the increase in capacity that Dr. Israel is attributing to the NEA is -- actually would have occurred otherwise.

Q. Were you able to quantify all of the differences between

the two schedules?

A. No. Because of the nature of Raven output, I can't identify all of the inappropriately assumed increase in passengers, but it's part of the pink bar that includes the existing order book that was to come on line, but I can't discern kind of how much of that capacity is due to the order book.

Q. Let me ask you a few more questions about that last point, the order book. Have you heard testimony during the trial about the order book and how it was incorporated into the v2 schedule?

A. I have. Here's a couple of quotes, and where -- at this trial, where planning folks described that they were including in the 2023 schedule, the existing order book, at that time.

Q. That's the preNEA order book?

A. Yes, that's the preNEA order book.

Q. Did Dr. Israel's analysis consider American and JetBlue's preNEA stand-alone growth plans?

A. No, they didn't -- he did not.

Q. What impact does that have on his analysis?

A. Yes. So here I'm just depicting in the orange bars the increase in capacity that's assumed from the v2 schedule. And then on the right bars, I'm comparing that to the 2020 growth plans that I presented earlier, and you can see that

the 2020 growth plans actually had more, a larger increase in capacity than is assumed between the 2019 and v2 schedule. And suggesting that not incorporating those growth plans would significantly overstate the impact of the NEA.

Q. Are these stand-alone growth plans part of the pink bar that we looked at a few minutes ago?

A. Yes.

Q. Is part of the growth that Dr. Israel attributed to the NEA because of JetBlue flying larger planes on slots that American had been using?

A. Yeah, that is part of his increase in capacity is coming from that.

Q. So how much additional capacity has come from that shift in slots?

A. Yes. So I was able to look at the Raven output to calculate how -- what percentage of that increase in capacity is coming from JetBlue's using the American slots at LaGuardia and using an up-gauged jet. You've heard about that. And about 13 percent of that total increase is attributable to that JetBlue up-gauging.

Q. Thank you, Dr. Town. Let's move on now from Dr. Israel's first step to his second step, the methodology for putting a dollar value on all of the increase in traffic.

So first, can you describe how Dr. Israel does that, computes that dollar figure?

A. Sure. So for each route, so this is done on a route by route basis, he estimates the difference in welfare that's attributable between the two scenarios, the v2 scenario, and 2019 baseline scenario. And then he calculates a welfare on each of those routes that he attributes to this change in passenger traffic, and then he sums up that welfare across all the routes.

Q. So this is a little bit technical. So have you prepared an example of a route to try to walk us through exactly how this works?

A. Yeah, so Dr. Israel, there's kind of a black box that he kind of uses. There's kind of passenger traffic comes in, consumer benefits comes out, but what I'm trying to do here is kind of open up the black box, so we can understand exactly the assumptions that he's making in order to make this calculation.

Q. So what is depicted here on this slide?

A. So here is a route, one of the routes, Boston-Indianapolis with Boston as a starting point and the red dots represent the Raven output that comes up. This is the actual Raven output that comes from this analysis. So the baseline scenario, Raven predicts about 5,800 passengers, and then under the NEA scenario, the v2 schedule that predicts 70,000 passengers on that route.

Q. Why is there such a large increase in passengers that

comes out of Raven for this route?
A. So in the v2 schedule they've added nonstop service between Boston and Indianapolis, which is the reason that Raven predicts a large increase in traffic.
Q. Is that some of the assumed increased in capacity that you've testified about?
A. It is.
Q. So what are some ways to think about, as an economist, how Dr. Israel takes the passenger figures here and the prices and calculates his benefits?
A. Yes. So the first thing he does is, starting with the baseline scenario, he's just going to draw a linear demand curve through that point, with a specific elasticity at that starting point of 5,817 passengers. That's the minus 2.1 elasticity. So that determines the slope of that line. So that's his starting point. He's saying that -- that that passenger traffic, at that price, was a consequence of that demand drawn here. So that's -- that's the starting point.
Q. So what does Dr. Israel do next?
A. So then he says, well, the increase in traffic that I observe must be driven by an increase in the quality of traffic, or a quality of flying on that route. And then to capture that, he's going to draw another demand curve that goes through that second NEA scenario point that is parallel, and this is very important, to the original demand curve.

And what that means is that every person who would think about flying on that route would experience the same dollar value increase in quality, because the business traveler would have the same increase in value as the leisure traveler would. And so that's -- and that's very important for his analysis, assuming this shift in demand that's driving the increase in traffic.

Q. So how does that shift then translate into a consumer benefits figure?

A. Yes. So it's standard economics that the benefits from change in price or a change in the quality of a service is going to be given by the area underneath the demand curve and above price, so it's going to be this blue triangle here.

Q. So then how does Dr. Israel take that idea and come up with a new price?

A. Yeah, so Dr. Israel testified about he calculated a quality adjusted price, and the way that works is you returned to the original baseline scenario demand curve, so the figure on the right is kind of a blown up version of that. And what he's going to do is trace that demand curve down and find the point where it intersects the 70,000 passenger traffic figure that's from the NEA. And so he's going to -- that's going to be his quality adjusted price, which is the difference between the original price, and the price that intersects the NEA scenario, with that original

demand curve. So in this scenario, and this comes out of Raven, or out of his analysis, the quality adjusted price is minus $1,100. That is, to get the same amount of traffic on that route, using kind of the connecting service they had prior to the NEA -- assumed NEA expansion, they would have to pay passengers $1,100 for a one way equivalent to get that same amount, which is implausible. I think if you were going to pay people $1,000 to fly on a flight, you would get -- it would be a good living, and so that's an implausible implication of his analysis.

But so how these two curves line up is that the areas, the blue areas are the same. And that's because he assumed a linear change in demand, and a linear demand and a parallel shift in the demand curve, which are just assumptions. There's no justification for that whatsoever that he's made.

Q. So now that Dr. Israel has his quality adjusted price, what did he do next?

A. So then he takes that quality adjusted price and calculates the difference in quality adjusted price between the 265 and the minus 135, and he takes that difference and multiplies it by the number of existing passengers prior to the NEA. So that's -- he multiplies that difference by the 5,817.

Q. And then does he exclude some of the blue shaded

triangle?

A. He does. He excludes the vast majority of the blue shaded triangle.

Q. And did he explain why he excluded part of the consumer welfare that his analysis implies?

A. Yes, he did. So I interpret what he said was acknowledging that the linear demand curve and the shift in the linear demand curve that he was assuming was generated some implausible figures, and so he was going to correct for those implausibility by just kind of giving a haircut to his total benefit number. So, for example, in this quality adjusted price analysis for Indianapolis-Boston, if he -- if his model was correct and if he believed it, then the correct benefit would have been $53 million. But the way he's giving it, adjusting it, it comes down to $8 million. So he's reducing it by $8 million.

And his justification, which I think he testified to, was that, yeah, this kind of gives unreasonable results, however, that rectangle part is similar to what would occur under a different demand curve, which he's not using, and so since it's going to be similar to that, I'm going to use that. But the important point is that it is only similar under small changes in demand. But here we have very big changes in demand going on. In fact, a linear demand curve, if the changes in quality and quantities were relatively

small, it's probably not a terrible approximation. It depends on the circumstance, but here you have very big changes. And then the assumptions about linearity are going to be really important for your welfare calculations.

Q. Is it fair to characterize what Dr. Israel did here, the exclusion of the triangle as conservative in some way?

A. No, I don't think so. For example, he calculated benefits -- total benefits about $635 million. He presented other analysis to the Department of Justice using a different demand curve, a constant of elasticity demand curve, which is probably more sensible. And the welfare benefits from that were, I think, 72 percent less than he calculated. He came out at $175 million.

MR. WALL: I'm going to --

MR. SCHWED: Objection.

MR. WALL: If he's going to do that, he has to pull the document out and bring it in. That's, first of all, false, but second of all.

THE COURT: I'm just lost, so I'll sustain it.

MR. HEIPP: We can move on, Your Honor.

BY MR. HEIPP:

Q. Is the Boston Indianapolis route that you identified here an outlier in terms of the quality adjusted prices that are implied?

A. No, it's not. There are about 400 some markets that have

these negative quality adjusted prices. Here are the top ten are just benefit estimates that come from Dr. Israel's analysis. In the top ten, all of them have significantly large negative quality adjusted prices. And so that's -- the first column there -- well, the first column is the airport pair. The second column is the implied quality adjusted price that Dr. Israel calculates. And you can see here, there's -- you know, Vancouver, Boston has a negative quality adjusted price of almost $11,000.

Then the benefit that Dr. Israel calculates is in that third column, and the fourth column is what would happen if you assumed that they couldn't charge a negative quality adjusted price. That is, if they capped the price at zero, what would be the change in welfare when you do that. And then the percentage difference is -- of that is on the right-hand side. And in some, if you would just cap the quality adjusted price at zero, you would get -- you would reduce his benefits by 89 percent on these ten markets.

Now, these negative quality adjusted prices account for 45 percent of his total benefits.

Q. Does Dr. Israel's assumption about a linear demand curve also have implications for American and JetBlue's incentives to change their prices?

A. They do. So if his analysis were correct, that if the NEA were shifting demand in the way he says it is, then the

airlines would have an incentive to raise prices significantly, and that's because the elasticity changes along the linear demand curve. And so in the Boston-Indianapolis route, if his analysis were correct, then the carriers could increase total revenue significantly by charging a higher price.

Q. So what you've been describing so far as a shift in demand, is that typically the way to model a change in capacity?

A. No. So I think Dr. Israel testified about this at trial, that changes in capacity are a change in the supply curve. They're not innately a change in the demand. So "when you add capacity, the standard effect is to shift that supply curve out, and it puts downward pressure on your unit revenue."

And -- but that's not what Dr. Israel does in this case. He attributes all of that change in passenger traffic to a change in the quality of the service, not a change in the supply of the service.

Q. Did you look at what it would look like if you modeled it as a change in supply, rather than demand?

A. Right. So here, I kind of present an example of what would happen if you assume that the change in passenger traffic were driven by a change in the supply curve. So first, I'm going to draw a demand curve that goes through the

two points that are the baseline and the NEA scenario. And then we can draw a supply curve that goes through the original point. Right? That reflects the capacity that's available on that route at that time. And then with the NEA, the assumed increase in capacity then would shift out that supply curve to the dash line through the NEA scenario.

So in this case, there is no shift in demand, but the shift in quantity on this route is driven by the increase in supply. So if this were the -- if you assume that this is what's driving the welfare -- or the increase in passenger traffic, excuse me, then you would calculate the consumer benefit from that by this area underneath the curve here.

Q. How does that compare to what Dr. Israel did?

A. So here we can do a comparison side by side to what Dr. Israel was doing versus what would be implied by a pure supply shift explanation. And so you can see, whether you use the rectangle or whether you use the whole area under the demand curve, it appears supply shift implies a much lower increase in consumer benefit than the assumed demand shift.

Q. So overall, what do you conclude from your evaluation of Dr. Israel's monetization methodology?

A. Well, first, you know, as I described earlier in my testimony, the differences in passengers that are attributable to NEA, that's a flawed assumption, as I described earlier. A lot of that increase in capacity would

have occurred without the NEA.

His linear demand assumptions and parallel shift in demand assumptions are flawed assumptions, and they lead to implausible implications. In particular, they lead to these negative quality adjusted prices, which drive much of his consumer benefit calculation, and it's at odds with profit maximizing behavior. That is, if this was the world that the airlines faced postNEA, they'd have a strong incentive to increase price, and thus, Dr. Israel's benefit figures are flawed and unreliable.

Q. Thank you, Dr. Town.

Let's move on to a slightly different topic. So in addition to the analysis that we've been talking about, based on the clean team and Raven, did Dr. Israel do other analyses to support his benefits calculation?

A. He did. So he did this alternative analysis, where he looks at the change in shares that occurred pre and postNEA. And then he attributes that change in shares to the causal effect of the NEA. And then he multiplies that change in shares times the number of passengers that were flying preCOVID. And then he then applies the same monetization formula and approach to this change in passengers. So he's just using another alternative way to come up with an increase in passengers that are attributable to the NEA. And then he just applies the same monetization formula that I

described before.

Q. Have you evaluated this methodology?

A. I have.

Q. And what did you conclude?

A. Well, first, I mean, we've heard testimony on -- and a discussion about this previously, but COVID is ongoing during this time period, so it's unlikely that the change in shares reflect any kind of long-run equilibrium that can be attributable to the NEA. Some carriers are coming back quicker from COVID; different routes are affected differently. So it's contaminated by the impact of COVID.

His analysis ignores the kind of Peter to pay Paul effect; that is, insofar as JetBlue in particular, but American as well, is funding increased NEA flying at the expense of nonNEA airports, he's going to ignore that.

And he's applying the same flawed monetization problem -- approach, as I described earlier, he's just doing the same thing, but on a different set of quantity, passenger traffic predictions.

And in particular, he's using a period of time which overstates the impact of the NEA. And you can -- I'll go through that, and it's pretty clear when you look at the data what he's doing and how it overstates it.

Q. So, as you've said, we talked about most of this, but can you describe that last point, the time period issue in more

detail?

A. Sure. So here's a graph of the combined American/JetBlue capacity share at NEA airports over time. So the green bar is the period of time that Dr. Israel uses for his pre-period, and the red bar is the period that he uses for his post-period. So he's comparing the height of the green bar to the height of the red bar, and that difference he's attributing to the NEA.

But you can see that the pre-period that he's choosing is during the 737 MAX waiver, so share is depressed a bit during that period. And then in the post-period, he's picking a particular period of time where the shares were high, and they've come down since.

Q. During the redirect portion of his testimony, Dr. Israel testified about a calculation that he did about benefits at nonNEA airports. Did you hear that testimony?

A. I did.

Q. Did you also look at the shares for American and JetBlue at nonNEA airports?

A. I did. And it's depicted in this figure. And you can see, again, the green bar and the red bar are the same in the sense that they depicts his pre- and post-periods that he's choosing for his analysis. And in particular, you can see the red bar is during a period where their share, combined share in nonNEA airports was relatively high. But it's been

falling pretty steadily since June 2021 and is now maybe slightly above, maybe about the same as the pre-period. So if you were using kind of the last period, you would include -- conclude that there was no change in share due to the NEA.

Q. So putting it all together, did you look at American and JetBlue's share across their whole domestic networks?

A. Yeah. So that's depicted in this figure. The black bar is the combined share. The blue bar is the NEA airport share, and the green bar -- green line is the nonNEA airport share. And so you can see that their total share across both airports have been in decline since June 2021. And the increase in share at NEA airports is primarily driven by increases in international travel, traffic from those airports. And those get a higher weight in this kind of analysis because those are longer trips, so you get more ASMs associated with a trip overseas.

Q. So given that international flying that you just described, did you look at just domestic capacity for American and JetBlue?

A. Yes. So this is a picture of domestic capacity at NEA airports for JetBlue, the combined JetBlue/American, the blue line; relative to Delta and United, the red and the green lines. And so -- and then, again, using the September 2018 baseline. And you can see that over time, there was some

gaps between the two airlines, but over time they've converged, and at least as of, essentially, today, they're basically the same. There is no increase in domestic capacity at -- for JetBlue and American, relative to United and American -- or United and Delta. Sorry.

Q. So then just stepping back and looking at the whole picture, did you look at American and JetBlue capacity, domestic and international flying, at all airports?

A. Yeah. So this is all US airports, the international and domestic capacity for American, JetBlue, Delta, and United. And you can see that there is some periods of time where JetBlue and American was above Delta and United, but that is converged over time. And essentially, you know, if anything, United has added more capacity than American or JetBlue or Delta.

Q. So we've now talked about Dr. Israel's analysis based on Raven and his share-based analyses. Did you look at how those two sets of analyses compare?

A. I did. So as I mentioned earlier, Raven makes a prediction about the change in traffic from the NEA. Then Dr. Israel has this alternative change in traffic that he's attributing to the NEA. And this figure is just lining up those two predictions, just seeing if they're correlated. And you can see it's basically a cloud, that they're unrelated to each other. And the correlation is very slight.

It's .07. So there's a very small correlation between these two predictions.

Q. Did you also do the same comparison based on Dr. Israel's seat share analysis?

A. I have and it's basically the same conclusion and same picture. There's virtually no relationship between these two sets of predictions about the causal impact of the NEA.

Q. So I'd like to shift gears and ask you about a few additional topics. You've heard testimony about the agreement that American and JetBlue reached with the Department of Transportation?

A. I have.

Q. And you're aware that there are certain growth commitments in that agreement?

A. I am.

Q. How, if at all, do those growth commitments account for what the defendants would have done without the NEA?

A. The DOT baseline does not represent what growth, absent the NEA. So the baseline does not include the planned up-gauging we've talked about, and also the potential lease of the slots at JFK to JetBlue that was in the works, absent the NEA. And so there is a lot of growth that would occur, absent the NEA, that is not accounted for in the baseline for the DOT's baseline.

Q. And so how about the scope of the DOT agreement? Does it

cover the breadth of the NEA?

A. No, it doesn't. It only covers JFK and LaGuardia. It does not cover Boston and Newark, and it doesn't cover the nonNEA airports, so insofar as there's any kind of funding from nonNEA airports to cover the DOT commitments, that would not be accounted for. The capacity commitments end in 2025, so they're of limited duration. And the punishment for not meeting those targets is rather limited. It's a divestiture of slots, not a forfeiture. So they get to sell the slots and they would get the revenue from selling the slots. And if they were required to sell all of those slots under this commitment, it would effect two percent of their total slots at JFK and LaGuardia.

Q. Thank you. Now, let me ask you a few questions about less restrictive alternatives. Did American consider an arrangement with JetBlue similar to the West Coast International Alliance that it has with Alaska Airlines?

A. It did. It called this arrangement the East Coast International Alliance, ECIA, and they did Raven runs that compared the ECIA to the NEA codesharing structures.

Q. And what did those Raven analyses show?

A. So those Raven analyses showed similar increases in passengers from those two different runs and -- but those two different runs had the same 2019 traffic -- or, I'm sorry, schedule. And so there was no capacity increase in --

driving any of the differences in predicted passengers.

Q. So what do you conclude from the fact that the two scenarios generated similar numbers of passengers?

A. Well, if you had added capacity to the ECIA scenario, then you would get an increase in passenger traffic there. Much like you get an increase in passenger traffic when you add capacity to the NEA scenario.

MR. SCHWED: Your Honor, I object to this entire slide. This is not in his report anywhere, it's brand new analysis presented for the first time, and I move to strike all the testimony about this.

MR. HEIPP: That's not correct, Your Honor. Dr. Town discussed this in his report.

MR. SCHWED: This analysis?

MR. HEIPP: The comparison of the Raven runs. That's in both his reports.

MR. SCHWED: We can address it. Why don't we let him continue and address it afterwards.

THE COURT: Fine.

BY MR. HEIPP:

Q. Dr. Town, did you hear Mr. Harrison's testimony at trial about the WCIA that Alaska has with American?

A. I did hear that testimony.

Q. How did his testimony relate to this idea of an East Coast International Alliance with American and JetBlue?

A. Well, I heard his testimony nearing the defendants' claims about the NEA, that the WCIA was a response to Delta's hubbing of Seattle. So Delta kind of built a hub in Seattle, where Alaska also has a hub, and they were concerned about Alaska's relevance in Seattle, as well as in Los Angeles, so the rationale was similar.

He also claimed that the WCIA has incentivized growth. So those are a couple of the important parts of his testimony that I thought mirrored what the defendants were claiming about the NEA.

Q. Did you hear Mr. Harrison testify about the revenue sharing component of the WCIA?

A. I did. And in that testimony, it's noteworthy that there are some important differences between the revenue sharing and the WCIA and relative to the NEA. They both have MGIAs, as he testified, but the revenue sharing in the NEA -- well, I should say the revenue sharing in the WCIA includes only Alaska's international routes and Alaska's domestic travel, not on overlap routes. Alaska and American cannot codeshare on nonstop overlaps for local traffic. And importantly, there's no capacity coordination ion the WCIA.

Q. No, you mentioned nonstop overlaps, did you hear Mr. Raja's testimony that the WCIA has relatively few nonstop overlaps?

A. I heard that testimony.

Q. What's your reaction to that?
A. Well, American and Alaska overlap on about 35 routes and on nonstop overlaps, and under the NEA, I think it's 29. So I'm not sure if that's few or not, but there are 35 nonstop overlaps in the WCIA.
Q. So ultimately, were you able to quantify the difference between an ECIA and what American and JetBlue ultimately entered into as the Northeast Alliance?
A. No, I was not able to.
Q. Why not?
A. Because I don't have access to a network planning department, which would be necessary to undertake such a quantification.
Q. Thank you. Okay. Let's move down to another new topic. Did you hear Dr. Lee testify a couple weeks ago now about your capacity discipline analysis that you testified about?
A. I did.
Q. Can you describe what Dr. Lee's criticisms were and what your responses to those criticisms are?
A. So my understanding is that he had five principal criticisms, which I've listed here. And so the first one was that most of the legacy capacity reductions occurred prior to the capacity discipline period. And my response to that is the capacity discipline is about slow growth and not absolute reductions in capacity.

And the area -- the time period that he identified where the capacity was being removed from legacy carriers was the 2000 to 2008 period, for the most part. And that's included in my analysis. And as I'll show, my analysis is robust to allowing those bankruptcies to affect capacity decisions.

Two, the capacities reductions were driven primarily by the expansion of LCCs. So I think his claim is that my analysis of the legacy carriers is not accounting for expansion of LCCs. But that's why I look at the overall industry impact of capacity discipline on capacity, and LCCs are included in that analysis.

And then he says that I should not -- I should only -- I shouldn't worry about LCCs; I should only explore the impact on legacy carriers. But, as I just said, industry-wide capacity shows that legacy reductions in capacity were not offset by the LCCs; that is, there was a reduction in capacity industry wide.

And then he says that my capacity discipline results are driven by a not specified improvement in technology. Dr. Lee's story broadly doesn't align with the capacity discipline period; that you would have to have that technology kind of come online exactly when the capacity discipline started and become -- not affect capacity decisions, right when the capacity discipline period is

unwinding.

And he proxies for this technology using load factor. And I testified in my -- earlier, at the previous time in this seat, that his putting load factor in that regression is -- that load factor is endogenous; and that will bias your estimates, and you won't be able to infer the impact of capacity discipline.

And then, finally, my capacity discipline results are driven by this "jobless recovery." And I'll show that airlines discuss a recovery from the recession as early as 2010. And if you included unemployment -- and I mentioned this in my earlier testimony, if you include unemployment in my analysis, it does not change my conclusions about the capacity discipline occurring, its time period, and whether it was an economically important event.

Q. So let's touch on each of these just briefly. So first, could you explain how you accounted for this period of time where there were bankruptcies by a number of airlines?

A. Yes. So this is a somewhat different version of the graph I showed earlier when I was testifying. So in this figure, I'm including individual indicators from the period 2000 onward. So there's individual annual indicators, sorry, for the period of 2000 onwards. So here, again, this is depicting the results of the regression that I was running, where I'm regressing the ASMs, the log of ASMs on the log of

GDP, log of fuel prices, these three recession indicators, and then allowing for that historical relationship between GDP fuel prices and ASMs to deviate at any point during the 2000 period onward.

So if the bankruptcies that Dr. Lee was identifying as being important and not being included in my analysis and affecting my analysis, you would expect to see the green line, which is the predicted capacity that comes out of the model, and the blue line, which is the actual capacity that comes out of the model, you would expect to see a deviation during that period, if the bankruptcies were causing capacity to deviate from its long-term relationship.

Similarly, if there was a technology that was coming into play that was affecting the efficiency of capacity, you would also expect that to have a wedge between the green and blue lines during that period of time, if it were coming on a period of time. But what you do see is that the capacity discipline period that I identified earlier is -- holds. You still see the big gap between the blue line and the green line, from about 2009 onward. And then, again, it unwinds in the late 2010s, and then returns to its historical relationship.

Q. So the second and third of Dr. Lee's criticisms that you described a minute ago related to the role of LCCs, low cost carriers. Can you explain how you incorporated those into

your analysis?

A. Yeah. As you saw on the previous slide, that included LCCs, so that if LCCs' expansion was swamping the decline in legacy carrier capacity, then you would not see a departure there. You would see the green lines and the blue lines overlap. And that's just not the case. It's not showing up in the aggregate industry capacity.

And to the extent that legacy capacity discipline has been mitigated by low cost carriers, JetBlue was particularly important in that.

Q. Let me ask you a little bit more about that last point. Dr. Lee testified that Spirit and Frontier had been growing more than JetBlue. How do you react to that?

A. Well, he was looking at percentage changes in capacity. And because those airlines are relatively small, as I stated in my original testimony, looking at percentage changes would overstate their impact.

And so here, I'm presenting the cumulative increases in capacities by air carrier in the Northeast. Obviously that's where JetBlue is focused. And you can see over this time period from 2009 to 2019, JetBlue added more capacity in absolute numbers than any of the other carrier, except for Delta, which kind of clips it at the end of the period. The other carriers, like Spirit and Frontier, are adding significantly less capacity over this time period in

the Northeast than JetBlue.

Q. Dr. Lee also testified about JetBlue's business model and how it compared to the legacy carriers. Did you also look at that question?

A. I did. So Dr. Lee was claiming that the low cost carriers have a different business model, which they do. But that different business model implied that they competed with the legacy carriers in different ways.

And here, I'm showing the number of nonstop city pairs that are served from NEA airports by different carriers. That's the height of the bar. And then the colors that are within the bar are -- and this is a modification of a figure that Dr. Lee made for his report. And then the colored bars represent the size of the market that's being served. So that dark brown color is the largest market, and the yellow is the smallest market that's being served by these carriers.

And you can see two things of note. First, that JetBlue is serving the second highest number of nonstop city pairs out of NEA airports. Delta serves more. And second, the types of markets that JetBlue is serving is pretty similar to the legacy carriers; that is, it's competing with the legacy carriers on small markets and medium and big markets. So it's competing with them across the whole array of market sizes. And so that's the takeaway from this

figure.

Q. So let's turn to the fourth of Dr. Lee's criticisms. Can you remind us why you didn't include load factor in your regression?

A. Sure. So I didn't include load factor because it's endogenous. And the reason that it's endogenous is that the variable that we're explaining, available seat miles, is included in load factor. Load factor is revenue passenger miles divided by available seat miles. So it's included in both. So it's obviously endogenous; that is, if something moves load factor through its impact on capacity, say capacity discipline, it's also going to affect ASMs directly. So it's going to confound those effects, which is the definition of endogenous. It is, I don't think, a debate that it is an endogenous variable.

Q. Dr. Lee testified that he used instrumental variables to correct for this endogeneity problem. Do you think his approach solved the problem?

A. I don't. And the reason is is that instrumental variables approach can correct for endogeneity bias, but i can only do so under very tight and well-specified conditions, and if those conditions are met, then the instrumental variable will correct for the bias, and that, in turn, means that the co-efficient is changed, because the bias is being corrected. But when Dr. Lee does his

instrumental variable analysis, his co-efficient doesn't meaningfully change from his -- my analysis, and so what does that imply? It implies that in fact, that co-efficient goes in the wrong way. That implies that his instrumental variables approach doesn't meet those criteria and does not solve the problem.

Q. And Dr. Lee also testified about something called LCC-RPM share. Can you explain what that is and what he suggested that you should do with it?

A. Yes. So Dr. Lee suggested that LCC-RPM share should be included in my legacy analysis, my legacy capacity analysis. And here I'm just kind of breaking down what is included in the LCC-RPM share. And the important thing to take away is that the legacy RPM shares is in the denominator of this variable. That is, this variable is going to be affected by legacy RPM shares. But RPM shares are going to be also affected by legacy capacity. So that is, you need a seat to fly somebody.

And you've also heard testimony that when capacity is reduced from the market, we've heard testimony from a lot of different witnesses that when capacity is removed from the market, fares go up. And if fares go up, passengers are going to go down, And so that provides a direct causal link between ASMs and RPMs. And that implies that RPM share is -- LCC-RPM share is endogenous and his instrumental variable

approach to correcting for that endogeneity suffers from the same issues I identified earlier. The co-efficient doesn't meaningfully change, suggesting that his instrumental variable corrections is invalid in not correcting for the problem.

Q. Okay. Finally, let me ask you about Dr. Lee's point about unemployment.

Did you review evidence about how the airlines viewed the recovery following the Great Recession?

A. I did. So here's a -- on the slide, I depict a slide from a 2012 US Airways conference and a couple things are noteworthy here. One, they note that, in 2010, it was a nice recovery. So they've recovered to some -- an important degree, and that their net income has increased substantially. And they point to both capacity discipline and consolidation as being a driver of that improved net income performance.

Q. Is it true that adding unemployment to your capacity discipline regression eliminates the results?

A. It doesn't eliminate it. Here's -- so on their regression results, and that is in -- column one is my original regression results with the annual indicators included there, and so you can see the negative .11, for example, in 2009, with stars on it, indicate that capacity was reduced in that year by at -- roughly 11 percent -- not

exactly that, but it's kind of approximately. And then on the right-hand side is what happens when you include unemployment in that analysis.

Now, the coefficients go down some, but they're still large in economic magnitude, and you can see that the period that's identified by the stars overlaps to a large degree. So you wouldn't conclude, by including unemployment, that there was no capacity discipline. It's perfectly aligns with the -- perfect is too strong. It aligns with the results where you don't include unemployment.

Q. Thank you, Dr. Town. Okay. Let's shift to one final topic. Did you hear Dr. Carlton's testimony this morning about his analysis of the American/US Airways merger?

A. I did.

Q. Did you look at the methodology the Dr. Israel and Dr. Carlton used in the paper that contains that analysis?

A. I've looked at it in some detail, yes.

Q. So can you describe your evaluation of the methodology that they used in that paper?

A. So I have quite a long discussion of this in my report, but I'm going to focus here on the treatment group that Professor Carlton and Dr. Israel defined in this analysis. So as he testified earlier that there are five nonstop overlap routes included in his analysis, just five. So all of his inferences about the impact of the merger on nonstop

overlap routes are based on five routes, and there was a total of 17 nonstop overlap routes that were identified, in which American and US Air competed prior to the merger. So he's picking a subset of those 17 for his treatment group. And it has been pointed out during his testimony, they include Dallas. Dallas is an end point on three of the five, and the Wright Amendment, which was discussed earlier, expired in 2014, and that allowed for Southwest to enter these routes and, in fact, they did enter in all of the Dallas routes listed here.

And Dr. Carlton also testified, well, his results were robust if you changed the time period, but the Southwest effect has been well documented. It affects fares even before Southwest actually enters a route. So limiting his sample size cannot remove that Southwest effect, because it will be pervasive once it's clear that Southwest has the opportunity to enter a market. Fares go down in that market, and so he's going to confound the impact of the American/US Airways merger with the repeal of the Wright Amendment.

Q. Thank you, Dr. Town.

MR. HEIPP: I can pass the witness, Your Honor.

THE COURT: All right. Cross-examination.

MR. SCHWED: Thank you, Your Honor. We'll hand out some books.

Could we just call up the slide that we were just

looking at, slide 55.

CROSS-EXAMINATION BY COUNSEL FOR DEFENDANT JETBLUE

BY MR. SCHWED:

Q. Dr. Town, this is criticizing Dr. Carlton's American/US Air merger retrospective, correct?

A. Yes.

Q. That's the same retrospective that you wrote about in your book chapter without any criticism, correct?

A. I don't think I did an analysis of that paper in that chapter.

Q. You cited it?

A. I cited it, yup.

Q. You discussed its results?

A. Yes.

Q. And you didn't criticize it.

A. No. As I testified earlier, that was the point.

Q. If you can just -- please, just answer the question. I have very little time.

THE COURT: It's an efficiency, if you just answer the question, we all --

THE WITNESS: I understand, Your Honor.

MR. SCHWED: Thank you.

BY MR. SCHWED:

Q. And you also cited a number of other papers in your report that reach very similar results as Dr. Carlton's

results in that retrospective, correct?
A. "Similar" is -- I mean, there were differences. There were same that were the same, some there were differences. There was one paper that was meaningfully different. It wasn't just one way.
Q. For the most part, they reached very similar results, that they were either no price -- no negative effects or very small negative effects, correct?
A. I don't think that's true.
Q. Well, your report will speak for yourself.
And you were actually working on a paper we discussed last time, right before a lunch break, I believe. And you said you hadn't look at that in a while. Do you remember that paper?
A. That's an unfinished paper that -- yeah.
Q. The paper you abandoned right after you got hired in this case, correct?
A. "Abandoned" is strong; we'll probably revisit it. I haven't looked at it in a while.
Q. Have you gone back and looked at it? Because you couldn't remember the results last time. Did you go back and look at it?
A. I haven't.
Q. You weren't even curious? When I got up here and told you that that paper found very consistent results to

Dr. Carlton, and you said you hadn't looked at it, you weren't curious enough to go back and look at it?

A. I didn't go back and look at it.

Q. So you don't dispute, as we sit here today, that that paper found that on nonstop overlap routes, there was increased traffic and decreased prices, correct, in the US Air merger?

A. So it's not a paper in the sense that it was finished. It's pretty clear it says, "Preliminary analysis, do not cite." It was not a finished paper. So it was not done.

Q. Whatever you want to call it, that piece of paper, that draft, it reached very similar results at Dr. Carlton, right?

A. I would have to review it, but --

Q. You can't dispute that as you sit here today?

A. I can't dispute that as I sit --

Q. I know you say it's a draft, but you sent it to a lot of other economists to review, didn't you?

A. I don't know about "a lot," but that's a pretty common practice to do that.

Q. It was far enough along that you felt comfortable sending it to other people?

A. Yeah. For the purpose to get feedback, for them to identify problems, which people did, and then to try to work on to improve those problems.

Q. And you know it's -- I think you said "don't cite" it.

You know it has been cited, correct?
A. I actually don't know that. But it says "don't cite" on it, so somebody's not paying attention to the --
Q. Do you know a Professor Orchinik at MIT?
A. I don't know him.
Q. And one of your co-authors actually presented that paper at a conference at NYU, correct?
A. Maybe, but I don't recall.
Q. Why don't we move to where you started today, which is the NEA benefits. And you criticize Dr. Israel's quantification of benefits, but you, yourself, have not attempted to quantify benefits, correct?
A. That is correct.
Q. You have not provided an alternative calculation, correct?
A. That is correct.
Q. You have not provided one that sort of, for example, takes Dr. Israel's benefits and corrects them and comes up with a new number?
A. I would disagree with that statement. In my report I modify his -- well, I displayed it here. I modified his analysis, limiting the quality adjusted prices to be zero. So that is -- I think I did that.
Q. And is that what you're saying is the correct number for benefits?

A. No, I'm not saying that's the correct number at all.
Q. And you have not -- you are not offering the opinion that there are no benefits, correct?
A. I am not offering that opinion.
Q. Now, if we could just go to slide 5 of your deck. And if I could just pull this.

Do you remember this? This is the slide that you presented this morning, correct?
A. It is.
Q. And I just want to ask you a couple of questions about this. If you read that sentence and you -- I just want to make sure that you would agree with this, that if you -- I don't know if it's called the converse or the inverse, but if you added the word "not" before "have" -- so if you said, "To the extent that defendants would not have added capacity absent the NEA, traffic would not be expected to increase without the NEA," you would agree with that statement, right?
A. Can you say that again? I'm sorry.
Q. Yeah. I don't know if --

MR. SCHWED: Andy, if you could -- maybe it's too much to do on the fly.

BY MR. SCHWED:

Q. But to the extent that defendants would add the word "not" have added capacity absent the NEA, traffic would not be expected to increase without the NEA.

You would agree that the reverse of what you said is true, right?

A. Within Raven, yes.

Q. And then you would also agree with the following, which is to the extent that the defendants have added capacity with the NEA, traffic would be expected to increase with the NEA, correct?

A. Again, this is referring to Raven, so I think that's a somewhat indifferent analysis. But I think capacity is really important here.

Q. Let's even forget about Raven. I just want to ask you if you can --

Andy, can you -- are you able to modify this, Andy? Can you cross out the word "Would" on the first line there. No, above that. Sorry.

THE COURT: We get it. I get it.

MR. SCHWED: Yeah, I'll just read it. To the extent that defendants have added capacity with the NEA, traffic would be expected to increase with the NEA.

BY MR. SCHWED:

Q. That sentence, do you follow me?

A. I'm with you now.

Q. You would agree, even apart from Raven, that that's a true statement, right?

A. Outside of Raven, I think it's more subtle. I think it's

more subtle. It depends on the pricing impacts. It depends on other impacts, which Raven is not really accounting for. So I agree with you that it's important and that would be an important factor, but there are other things you would have to consider.

Q. All else being equal, if the NEA causes an increase in capacity, that's good for consumers, right?

A. All else equal, which is an important qualifier, it probably is the case, but you have to consider it across the whole network.

Q. Let's just assume that capacity is added to the Northeast, without being taken from anywhere else on the network. You agree, that's a benefit to consumers in the Northeast, correct?

A. It could be a benefit, but again, you have to -- it's important, but it's not the whole story.

Q. Are you saying that added capacity might be a bad thing?

A. I didn't say that. But I'm saying that, to assess consumer benefit from capacity, you need to consider other things, as well.

Q. To assess the amount of the consumer benefit?

A. Yeah.

Q. Okay. Now, you have heard testimony from multiple witnesses that the NEA unlocks growth and capacity, correct?

A. I have heard testimony on that part. I have done my

analysis, which suggests otherwise.

Q. Well, you've heard testimony that, because of the NEA, JetBlue deferred the retirement of 30 E190 aircraft, correct?

A. I heard some testimony on that point. I think it wasn't uncontroverted, but I heard testimony on that point.

Q. Well, did you hear Mr. Friedman, he testified right before you, say, we will have 30 incremental aircraft, period, as a result of the NEA?

A. I heard his testimony that said that.

Q. And did you also hear Mr. Raja testify that, because of the NEA, American took deliveries of more planes in its order book than it otherwise would have done?

A. I did hear him say that.

Q. Okay. And if you take those pieces of testimony as true, those are increasing capacity because of the NEA, correct?

A. That testimony says -- yeah, just that testimony, in isolation, does say that.

Q. And you're not here to assess the credibility of those witnesses, right?

A. That's not my role.

MR. SCHWED: Okay. Can you go to slide 6, Andy.

BY MR. SCHWED:

Q. Now, I just want to look at your conclusion on the right side here that JetBlue accounts for 84 percent of Dr. Israel's claimed growth due to the NEA. Do you see that?

A. I do.

Q. You're not saying that's a bad thing, are you?

A. No, it's a decomposition.

Q. In fact, you would probably think -- if more of the growth comes from JetBlue, compared to American, that's probably a good thing, given JetBlue's role in the industry, right?

A. I have not analyzed that, so I can't comment on that.

Q. You have no view, one way or the other, just sitting here today, whether more growth by JetBlue is better or worse than growth by American?

A. I would have to do that analysis, which I haven't done.

MR. SCHWED: Okay. Can you turn, Andy, to slide 8, please.

BY MR. SCHWED:

Q. Now, on the top you referred to this as the July 2020 JetBlue plan. Do you see that? Without Connie.

A. Yes, I see that.

Q. Just to be clear, this is not an official JetBlue plan, right?

A. I think Mr. Friedman described it as the planning department's plan.

Q. Okay. And he described that this plan was not adjusted to reflect the COVID fleet reductions, correct?

A. I would have to go back and review that.

Q. You don't remember one way or the other?
A. Not off the top of my head.
Q. Don't you think that would be relevant?
A. Oh, I do think it's relevant, but I would have to review it.
Q. But let's -- okay, assume for the moment, that Mr. Friedman testified that this plan did not account for the adjustments in the fleet, the reductions in the fleet that were a result of COVID -- you're assuming that -- assume that for the moment.
A. Okay.
Q. That would be an important factor here, right?
A. It could be.
Q. It only could be? It would be, right? You have to admit occasionally, Dr. Town, that something would be something.
A. Well, it depends. Would it affect 2023? 2024? I don't know. Maybe the fact 2020, 2021, maybe.
Q. It would affect some period of time in the future after the NEA was implemented, correct?
A. It probably would.
Q. Okay.
THE COURT: It would change the chart.
THE WITNESS: Yeah.
BY MR. SCHWED:
Q. And just to be clear, these were not hypothetical

reductions. These were actual reductions agreed to with Airbus, right?

A. I would have to go review that testimony.

Q. You have no memory of that at all?

MR. HEIPP: Your Honor, there's a lot of argument happening in these questions. And I object to that --

THE COURT: Overruled, at least as to the last question. It was a perfectly fair question.

You have no memory of that.

MR. SCHWED: I didn't hear the answer.

THE WITNESS: I think I said I don't recall directly.

BY MR. SCHWED:

Q. Now, can we go to slide 9, please.

Now, again, the orange is -- on the top is accounting for the E190 nonretirements; is that right?

A. It is.

Q. And again, if those were -- if those were because of the NEA, those were benefitting the NEA in a way they wouldn't benefit if there were no NEA, right?

A. Potentially.

Q. They were incremental growth as a result of the NEA?

A. Potentially, yeah.

Q. Why do you keep saying "potentially"? If they, in fact, were not retired because of the NEA, they are incremental

growth because of the NEA, aren't they?
A. There is some dispute about whether they would be retired without the NEA.
Q. There's no witness who said the opposite, right?
A. There is some documentary evidence that suggests that.
Q. Dr. Town, you haven't -- withdrawn.
MR. SCHWED: Now, if you could go, Andy, to slide 15, please.
BY MR. SCHWED:
Q. Now, this is -- step one here is describing -- is you're attempting to describe what Dr. Israel did in the Raven methodology, correct?
A. Correct.
Q. And just to be clear, the Raven -- the part of what Raven did was basically predict the growth. The Raven exercise that Dr. Israel did was to identify the growth due to the NEA?
A. The clean team did the growth, and the Raven is the prediction, given the --
Q. Well, the clean team put in the schedule.
A. Yes.
Q. Raven is an ordinary course business course tool?
A. Yes.
Q. Raven spit out the results of that schedule in two different scenarios, correct?

A. Yes.
Q. And then Dr. Israel took that and used that to predict the growth due to the NEA?
A. He took that to produce the consumer benefits from the NEA.
Q. Well, the first step was to predict the passengers, and then he translated that to -- he monetized that?
A. Yes.
Q. And then just to understand what the -- what Raven did to get this -- what this referred to as the v2 output, is it applied 2019 demand conditions to a schedule based on the fleet that the clean team expected to be available, correct?
A. In 2023?
Q. Yes.
A. That's my understanding.
Q. 2023 was a proxy for postCOVID, right?
A. That's the year that we used for that, yes.
Q. And did you hear Dr. Israel testify that the clean team expected the 2023 postCOVID demand environment to be similar to the 2019 demand environment?
A. I heard him testify to that.
Q. And you don't have any reason to dispute that, do you?
A. The demand environment? I'm sorry --
Q. That the team believed that Raven was being used to model or -- withdrawn.

You don't have a reason to dispute that the clean team believed that 2023, the demand environment would be comparable to the 2019 demand environment?

A. I don't have a reason to dispute that, but that's -- I mean, it's the schedule that matters.

Q. But if -- Raven is applying a demand environment to a schedule, correct?

A. Correct.

Q. And you would agree that it would be reasonable to apply the 2019 demand environment to both the actual and but-for world, correct?

A. The demand environment is not different between these two, and that's not driving -- but, yeah, I mean, that's fine.

Q. And assume for the moment that in 2019, American and JetBlue had optimized their fleets for the then-existing demand environment, okay?

A. Okay. Jointly, you mean?

Q. No. Each of them, independently. In real life.

A. Okay.

Q. Are you following me?

A. Yeah.

Q. That's not an unreasonable assumption, is it?

A. No.

Q. And you don't have a reason to dispute that, do you?

A. That they were optimizing --

THE COURT: Each independently optimizing their schedule, given what they thought the demand was in 2019?

MR. SCHWED: In 2019.

THE WITNESS: Correct. Yes.

BY MR. SCHWED:

Q. So if American and B6, American and JetBlue, had each optimized their fleets for the 2019 demand environment in 2019, and they expected the 2019 demand environment to return in 2023 --

Are you following me?

A. Maybe.

Q. Those are the two things they discussed.

A. Yeah. Yeah.

Q. One, they optimized it in 2019 for the then-existing demand.

A. Yes.

Q. Two, they expected demand in 2023 to be comparable to 2019 demand?

A. Yes.

Q. So then if they were looking for a but-for world where there was no NEA, it would be reasonable to assume that their fleets in 2023, where the demand environment was the same, should be comparable to the fleets in 2019, or they should at least strive for that, correct?

A. I don't agree with that part, because we've seen discussions about them adding growth.

Q. The discussions are the things that you pointed to before, such as the network planning document that did not account for what JetBlue had done to reduce its fleet as a result of COVID, correct?

A. I -- well, again, you know, maybe. I'd have to review that testimony.

Q. Now, the -- just to make sure we put the Raven exercise -- and what Dr. Israel did with Raven in context, that was one of three methodologies that he used for what you might call the first half of determining consumer benefits, which is figuring out what the growth is. Is that fair?

A. I guess the three part -- certainly one of two. I'm not sure I'm classifying kind of the other part, but that's -- it's one of them, sure. Absolutely.

Q. And then the other -- one other calculation -- the other calculations were not based on Raven, correct?

A. That is correct.

Q. And what they did was they actually -- they looked at actual data?

A. Yeah.

Q. After the fact, after the NEA was implemented?

A. Yeah, as I described, yes.

Q. And one was looking at changes in share of passengers,

correct?
A. That is correct.
Q. And the other was looking at changes in share of seats, right?
A. Yeah, capacity share, yeah.
Q. And by either metric, American and JetBlue, combined, had higher share in 2021 than it did in 2019 at the NEA airports, right?
A. I think that sounds right, but I would have to double-check my --
Q. You don't disagree with that?
A. I don't disagree with that.
Q. And by either metric, American and JetBlue had a combined higher share in 2022, compared to 2019 at NEA airports, right?
A. Yeah, it declined from 2021, but it was still higher.
Q. And it was higher than I think you had preferred to use a September 2018 benchmark, instead of 2019. It was also higher compared to that, too, at the NEA airports, correct?
A. I think that's correct, yes.
Q. Okay. And you have observed in the past that one way to know if a transaction is procompetitive is to check whether the parties market shares increased after their transaction, relative to their competitors, right?
A. That is a metric.

Q. That is something you've used yourself, right?
A. I have looked at that, yes.
Q. Okay. And it actually, sometimes can be considered a conservative metric only to account for their market share changes, increases, because it doesn't account for responses by the competition, correct?
A. I don't know if I've said that, but --
Q. You don't disagree, do you?
A. But it -- that might be true, yeah.
Q. And you saw Dr. Israel's slide yesterday that showed that JetBlue and American are up 18 percent in terms of ASMs in the second quarter of 2022, compared to the second quarter of 2019 at NEA airports?
A. I saw that slide.
Q. You don't dispute those numbers, right?
A. Well, I think --
Q. You disagree whether their relevant, but you don't dispute them?
A. Well, I don't dispute that those are accurate. I dispute that those are not reflective of the entire -- the entirety of the picture.
Q. And using the same time period comparison, the other competitors were down 22 percent, correct?
A. I'd have to check. I don't recall.
Q. And even outside the NEA, the numbers aren't -- JetBlue

and American were down 13 percent from 2019 levels. Does that sound right?

A. I'd have to check.

Q. And the others were down 19 percent, right?

A. Again, I'd have to --

Q. Well, put it this way, you looked at -- I don't want to waste the time, but you looked at Dr. Israel's slide when he put it up, right?

A. Yeah.

Q. You didn't disagree with anything?

A. I didn't disagree that those numbers were the numbers that would come out when he used the periods that he looked at.

Q. And could we go to slide 12 for a second. This is something not in your report, right?

A. I don't think this figure is exactly in my report, no.

Q. And just to be clear, you're not suggesting, are you, that there was causation, are you? You're not saying, just from these two numbers, you're finding causation?

A. I think this is suggestive, but not finding -- I'm not claiming causation.

Q. Okay. And did you -- were you here or did you listen to when Mr. Znotins explained that Philadelphia is a gateway?

A. I did hear him say that.

Q. Were you aware, before he testified to that, that

Philadelphia was a gateway?
A. Yeah.
Q. Okay. And you recognize that, when you have a gateway, that means it's very dependent on international traffic, correct?
A. That is true.
Q. And that if the international traffic demand is down, you would expect to see less international flying?
A. That statement is true.
Q. And you would also expect to see less domestic flying because the gateway to domestic is driven by connections to international flights, right?
A. Potentially, sure.
Q. That is what a gateway basically is, right?
A. Yeah.
Q. People aren't flying there to be there. They're flying there to get on international flights. That's the definition of a gateway, essentially.
A. I agree.
Q. And you also heard Mr. Znotins say that JFK couldn't replace Philadelphia as a gateway for American, correct?
A. I heard him say that.
Q. You don't have any reason to dispute that, do you?
A. No, I don't.
Q. Okay. Now, could we turn to slide 13, please. I just

want to talk about this a little bit.

The column -- the next-to-right column where you have a bunch of yeses, you're not saying that there's no benefit to American adding a long-haul route if American serves that route from some other airport somewhere in the United States, correct?

A. I am not saying there's no benefit from that.

Q. And I should be more -- if they served that destination, not that route. Obviously it's not the same route.

A. I'm not saying there's no benefit from that.

Q. And in general, there probably would be a benefit to add one more way to get, for example, to Athens. That's probably a benefit, right?

A. Probably, yeah.

Q. Now, you've also talked about -- you've identified four routes that were exited here, correct?

A. To be exited.

Q. To be exited. Have you looked at what American is planning to do with the planes or the slots once it's exiting those routes?

A. I have not.

Q. That would be relevant to know whether there's any harm in exiting those routes, correct?

A. If you were trying to make a statement about harm, yeah.

Q. Or whether there's a comparable benefit. Maybe that's

another way to look at it, correct? An offsetting benefit.
A. Yeah, I agree.
Q. Are you aware that American is planning to add service to Mexico, for example, from JFK?
A. I am aware. In fact, that wasn't included here because this is intercontinental routes, but I am aware.
Q. And you don't dispute that if, for example, the Colombia routes were not successful, it's actually a good thing for American to stop flying them and replace them with a route where maybe there's more demand, right?
A. Potentially, yeah, I agree with that.
Q. That's good for consumers, right? If planes were allocated to places where there was more demand, that's generally good for consumers, right?
A. Some would benefit, some would lose from that.
Q. Net, though?
A. Hard to say but -- hard to say.
Q. Now, the second or final step -- it depends on how many steps you count -- of Dr. Israel's analysis is what you might call -- is quantification. Is that fair?
A. Yes.
Q. So it's -- you're taking some sort of growth, whether it's by Raven or by actual results, and trying to turn that into a dollar value of consumer benefits?
A. Yeah, I agree.

Q. And as a general matter, you do not dispute that that's a valid exercise, to try to monetize growth by turning -- by looking at the -- by looking at the passenger count or the increase in growth. That's a valid -- as a general method, a valid approach.

A. It can be. I mean, it depends on how you do it. But looking at increases in traffic and trying to monetize that, that's -- that's -- can be a reasonable thing to do.

Q. That's something the Department of Justice has done for decades, right?

A. I'm not sure they've done it this way or have done that. I would have -- that's not something that I'm aware of.

Q. Well, do you know one way or the other whether the Department of Justice has tried to figure out a monetary value of consumer benefits by looking at growth and monetizing it?

A. They have looked at how to figure out what the increase in consumer welfare is from, say, a merger, and part of the inputs into that would be changes in traffic. But it's a bit more complicated than you're suggesting.

Q. Well, you start with changes in traffic, right? That's kind of the first thing you look at.

A. Well, it depends on why those changes in traffic occurred, which, in my experience working with the DOJ, that's an important part of the step is to analyze why the

particular change in traffics occur because that affects how you monetize it.

Q. Why don't we turn to slide 21 of your slide deck. This is your -- it's the start of where you're criticizing Dr. Israel's quantification method, correct?

A. This is the start of my analysis of his exercise, yeah.

Q. So the starting point are the two quantities the 5,817 and the 70,273, correct?

A. Correct.

Q. And the reason that those quantities jump so much is because this was a route where American and JetBlue didn't provide any nonstop service before the NEA?

A. Correct.

Q. And that was being replaced by nonstop service?

A. I wouldn't say "replaced." I would say added to.

Q. Or added to. And it's not unusual to see flying jump a lot, especially a route of this distance, when you can all the sudden start flying American or JetBlue nonstop, right?

A. I think that would happen, probably.

Q. And you're not taking issue with the concept that you want to figure out a demand curve and use that demand curve to, in essence, quantify this change in quantity -- quantity the benefits resulting from this change in quantity, right?

A. Abstractly, that exercise, I think, is a good one to perform. It's the details that matter. But --

Q. Well, put it this way. If Dr. Israel had picked what you agree was the right demand curve, you wouldn't take issue with this methodology, would you?
A. It really depends on the details. It's hard to say that would be -- the details matter. So it could be. But I'm saying the details would matter and how you did it.
Q. The details on how you picked the demand curve?
A. Yeah. Where that demand curve came from, what are the assumptions about its shape, how it shifts, all of those things are important in these the calculations.
Q. But let's assume for the moment he got the right demand curve. You wouldn't take issue with the concept of using a demand curve to try to figure out the benefits?
A. Well, that would play into it, but you would also have to figure out the supply side so you would need both.
Q. And to be clear, you didn't attempt to derive a demand curve to use for this exercise?
A. I did not estimate such a demand curve, no.
Q. You didn't attempt to figure out, to quantify what the growth from 5,870 passengers to 70,000 passengers would be in terms of numbers, did you?
A. I did not perform such an exercise, no.
Q. And your main criticism of Dr. Israel is the use of a linear demand curve instead of a curved demand curve, right?
A. I don't know about main, but that's an important one.

Q. And there's been a term, logit or nested logit demand curve. Is that an alternative that you would say would be appropriate instead of a linear demand curve?

A. It can be. Those have implications, as well.

Q. And just to be clear, you acknowledge that Dr. Israel has not claimed that there actually is a linear demand curve, right?

A. I'm not sure he's claimed that it is, but that's what he's using for the exercise.

Q. Right. And the reason he's using it is as an estimate of the benefits that you would find under a logit demand curve, correct?

A. That's what he's claiming, yeah. I think that's --

Q. And the way he does this, you refer to it as a haircut. It's not -- but he doesn't just subtract a percentage. The way he does it is he counts only the rectangle, not the triangle, under the demand curve, right?

A. That is what he does.

Q. So -- and the reason he does that is to try to estimate the consumer benefits that the increase in quantity would lead to under a logit demand curve?

A. That's -- I think he claims that, but as I said, that's not -- I mean, that's what he's trying to do, but it's not an accurate representation of what would occur under a logit. And it's not obvious that logit is the right way to go here

either.

Q. He actually -- he didn't just sort of claim this randomly, he actually submitted an entire White Paper to the Department of Justice explaining this methodology, correct?

A. He did do that.

Q. Okay. And a lot of the results you show where you show negative prices, et cetera, those are -- those are what you get by extrapolating down or moving down a linear demand curve?

A. Yes.

Q. And Dr. Israel is not claiming that that's the actual demand curve and that the prices would be negative, right?

A. I don't know if he makes that claim, but it certainly is implied by his methodology.

Q. But if the only purpose of the demand curve was to estimate the benefits under a logit curve, it wouldn't be appropriate to use it for all other purposes, would it?

A. Well, it has implications, which you need to take into account, and so -- for its reasonableness. And so, if you wanted to estimate the demand under a logit, then you would use a logit instead of a linear demand curve, because that has ramifications.

Q. It's a harder to come up with the right logit curve, right?

A. I mean, you would have to estimate it, instead of assume

it, so it's harder in that sense that you can't -- you could assume the logit curve and done the same thing, I think. So that would have been probably equally feasible to do.

Q. By the way, one expert from this case did come up with a logit demand curve, right?

A. No, that was a nested logit.

Q. A nested logit demand curve. That was Dr. Miller.

A. Yes.

Q. That's an alternative demand curve?

A. That is a different demand curve.

Q. And when Dr. Israel actually used Dr. Miller's nested logit demand curve, the benefits that he found, the consumer benefits were actually a lot larger than his conservative estimate, right, on using the linear demand curve?

A. I think that's true, but I also think that --

Q. Thank you.

A. -- Dr. Miller criticized the application of it and thought it wasn't insightful.

Q. Now, if you can turn to --

MR. SCHWED: Andy, if you could put up slide 28.

BY MR. SCHWED:

Q. Now, I just want to make sure we're on the same page as to what Dr. Israel actually did.

If you look at the left side, okay, he's not -- you have two different things. You have total benefit of 53

million. Do you see that, roughly?
A. I do.
Q. That's not what he's claiming the benefit is, correct?
A. I agree.
Q. He's claiming the benefit is 8 million, correct?
A. Correct.
Q. And he's not saying that's -- he's not saying that benefit goes all to existing passengers. He's just saying the existing passenger rectangle is an estimate of what the actual benefit would be for all passengers under a logit demand curve, right?
A. I think that's what he's saying.
Q. Right? In other words, he's not claiming that new passengers get zero, existing passengers get 8.
A. That's what I understand him to be --
Q. Total is 8 million?
A. Yes.
Q. And under this scenario, probably a big piece of it would go to the new passengers, because there are a lot more of them than existing passengers?
A. In this scenario, that would be true. The blue is bigger than the gray.
Q. Now, on the right side, that's a demand curve you put in?
A. That is a demand curve I put in.
Q. Okay. And your benefits using that demand curve were

3.5 million, correct?
A. Correct.
Q. And that's to new and existing passengers?
A. Correct.
Q. So you're not saying the benefits are zero or anywhere close to zero, right?
A. Oh, no, not at all.
Q. And in fact, if your demand curve were a different shape, the benefits could be larger or smaller.
A. That is true.
Q. And if, for example, the elasticity of your demand curve were bigger, then the benefits would be bigger, right?
A. No, it's the opposite.
Q. Oh, did I get it -- okay, if the elasticity were lower, more negative.
A. In absolute value, as the absolute value of the elasticity goes up, the benefits goes down.
Q. Okay. And you haven't -- this isn't like a real elasticity that you calculated. You're just doing an example?
A. Yeah, this is an example. Agreed.
Q. So you could actually -- if you changed the elasticity by a factor of two, you could end up with the same number as Dr. Israel, right?
A. I'd have to go through that calculation.

Q. And by the way, you don't -- the elasticity that Dr. Israel used was negative 2.1, right?

A. That is correct.

Q. And that came from published works, correct?

A. Yeah. The Barry Jia paper.

Q. And again, just if -- if you assume that Dr. Israel was not actually saying there is a linear demand curve but was using it as a tool to estimate, and he was actually saying there was a -- it was estimating a logit demand curve, you'd nerve get negative prices under the logit demand curve, right? A logit demand curve never crosses the -- the X axis, right?

A. I'm trying to think about it. That's probably right, but I have to work the math out. Yeah.

Q. It's usually kind of asymptotic, right?

A. Well, you can have negative prices. I actually think you could have negative prices -- I'd have to work it out, so I don't want to say yes/no, for sure. But you can certainly have negative adjusted prices come out of a logit, I think.

Q. But generally, your logit demand curve is not going to cross the axis, right? Either axis.

A. You can put negative prices in the logit, and that will -- it will produce a number.

Q. Right. But you typically would not end up with a logit that crosses the X axis, right? Or except in extreme

situations, maybe.

A. Well, the X axis here is zero for a price, so you can put in negative prices in the logit and it will generate predictions.

Q. Whereas a linear demand curve, again, by definition is going to cross the axis because it's going in a straight line downward. Any downward sloping linear demand curve is always going to cross the axis?

A. At some point, yes.

Q. And just to be clear, you've talked a lot about this concept of funding from other markets.

A. Yes -- not a lot, I've talked about it.

Q. Two points to be clear, you have not done any analysis attempting to quantify any funding that potentially has or will take place under the Northeast Alliance, correct?

A. I have not done any specific analysis on that. I've looked at documents, things like that, but I have not done any specific analysis.

Q. Or a general analysis. You haven't come up with a number, a funding cost, right?

A. I have not made that calculation.

Q. And you have -- withdrawn.

And you agree that, once again, if you take the testimony as true that there were additional aircraft that would -- that would fund the growth within the Northeast

Alliance, and it was not required to be funded from outside the Northeast Alliance, that whole funding issue would go away?

A. If you assume that the funding issue goes away, it goes away.

Q. And the way it goes away is by getting -- funding the NEA from outside -- from new aircraft or delayed retirements, rather than funding the NEA from other airports outside the NEA.

A. That could alleviate.

Q. It could eliminate it, right?

A. Depending.

Q. And you just haven't assessed it one way or the other?

A. No, I have not been able to assess it one way or the other.

MR. SCHWED: I'm not looking at the clock. I'm about to move to a new topic. I'm happy to use the extra three minutes, or stop.

THE COURT: My view is I want to be done by 1 o'clock tomorrow, so I want to go as long today as we need to go so that tomorrow we have -- with the maximum amount of testimony is three hours and 45 minutes.

MR. WALL: I see no obstacle to finishing tomorrow on time.

THE COURT: Do you agree?

MR. JONES: I agree, Your Honor.

THE COURT: Okay. Fine. Then we'll stop now.

All right. Then we stand in recess, and I'll see you tomorrow morning at 9:00 a.m.

Thanks. Have a good day.

(Court in recess at 1:00 p.m.)

C E R T I F I C A T I O N

I certify that the foregoing is a correct transcript of the record of proceedings in the above-entitled matter to the best of my skill and ability.

/s/ Rachel M. Lopez October 26, 2022

/s/ Robert W. Paschal

_____ _____

Rachel M. Lopez, CRR Date

Robert W. Paschal, RMR, CRR

Official Court Reporters